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WATER SUPPLY OUTLOOK FOR WASHINGTON



U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

Data included in this report were obtained by the agencies named above in cooperation
with Federal, State and private organizations listed inside the back cover of this report.

AS OF
FEB. 1, 1978

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SOME OF THE DATA IN THIS REPORT HAVE BEEN RECEIVED THROUGH THE SOIL CONSERVATION SERVICE'S NEW SNOTEL SYSTEM WHICH TRANSMITS INFORMATION VIA THE SPACE AGED METEOR BURST METHOD FROM DATA SITES TO MASTER STATIONS LIKE THESE.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W., Calgary, Alberta T3C 1A6.



WATER SUPPLY OUTLOOK FOR WASHINGTON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

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SPOKANE, WASHINGTON

In Cooperation with

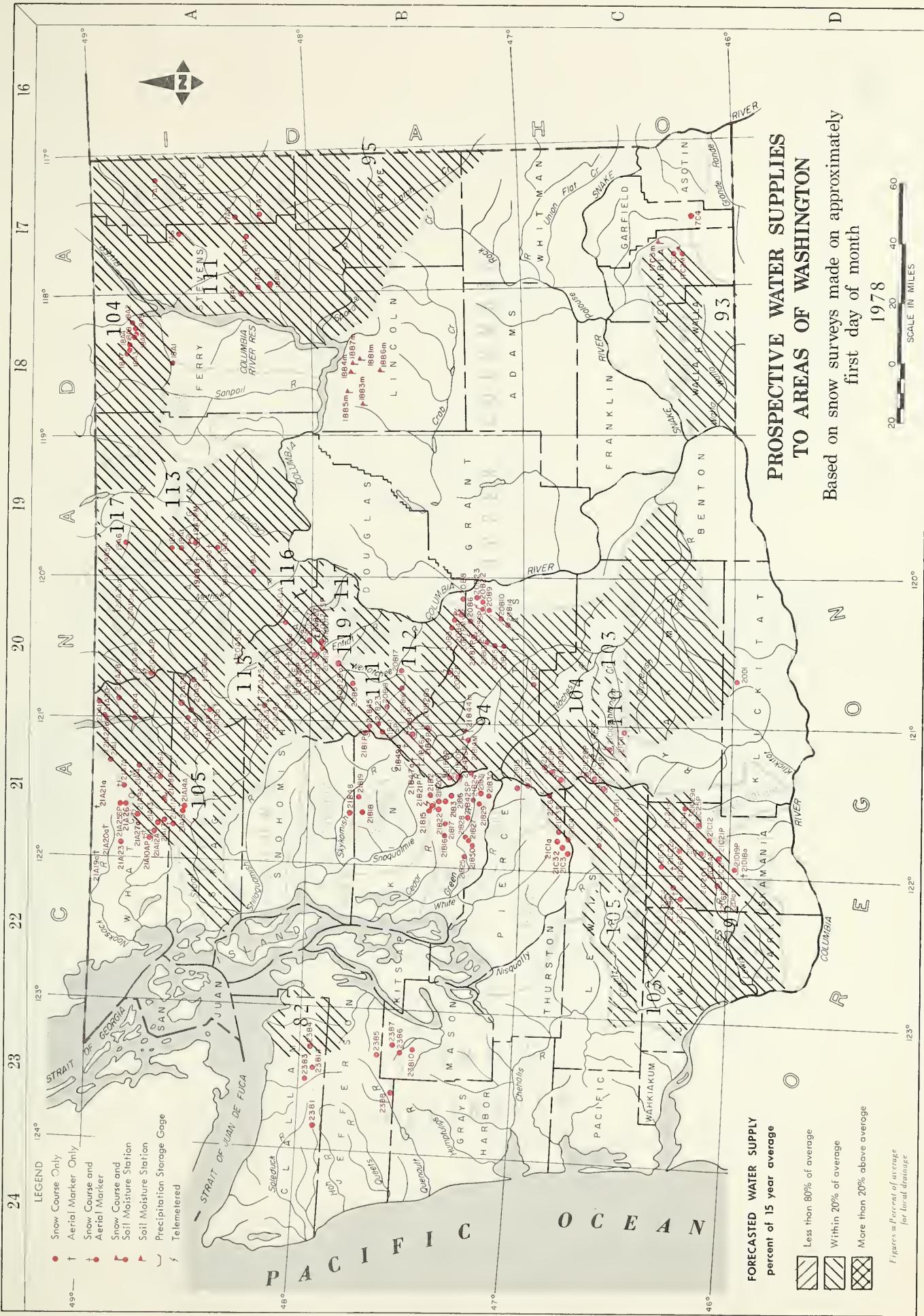
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STATE OF WASHINGTON

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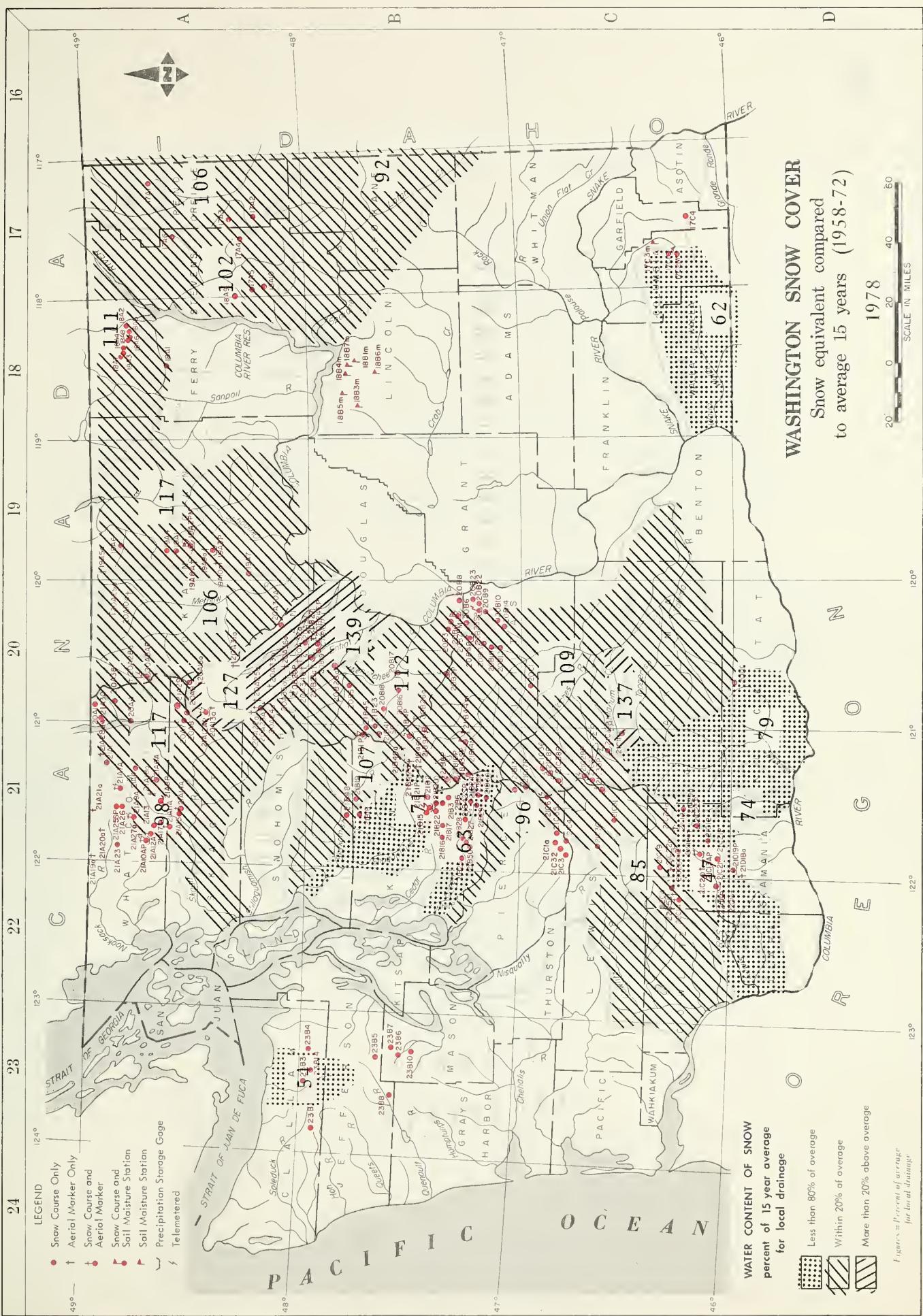
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INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION GAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.		
UPPER COLUMBIA DRAINAGE																			
Pend Oreille River						Wenatchee River (continued)						Lewis River (continued)							
Royer Mountain	17A2	7	31N	43E	5250	Trough #2	20255P-10	20N	20E	5310	Divide Meadow	21C29a	21	9N	10E	5600	Beaver Creek Trail		
Buncher's Meadow	17A1	24	37N	44E	5000	Colockum Creek	202B2	11	20N	20E	5300	Grand Meadow	21C28P	28	BN	9E	3500	Beaver Pass	
Winchester Creek	17A3	30	33N	43E	2970	Colockum Creek Upper	202B3	1	20N	20E	4300	Lone Pine Shelter	21C28P	3	BN	9E	3800	Brown Top	
Kettle River						Colockum Creek Lower						Marble Mountain	22C5a	24	BN	5E	3200	Devils Devil's Creek Trail	
Boulder Road	18A2	36	39N	36E	1450	Beehive Springs	20B4	12	21N	19E	4400	New Muddy River	22D6P	22	BN	7E	3100	Freezeout Creek Trail	
Burnt Creek	18A3	28	35E	4070	Scout-A-Vista	21N	20E	3400			Didman Pass	21D19P	22	BN	7E	3100	Meadows New		
Cabin Creek	18A8	5	39N	36E	3170	Jump-Off	20B8	34	21N	20E	4450	Plains of Abraham	22C1a	35	9N	5E	4100	Granite Creek	
Goat Creek	18A4	26	39N	36E	3595	Stemilt Creek	21N	20E	3400			Spencer Meadow	22C2a	29	9N	6E	4100	Meadows Cabins	
Snow Caps Creek	18A5	3	39N	36E	2150	Timelit Slider	20B6	30	21N	20E	4450	Surprise Lakes	21C1aP	16	BN	7N	3400	New Horizons Lake	
Snow Caps Trail						Upper Wheeler	20B7P	30	21N	20E	5000	Table Mountain	21C24a	21	BN	9E	4200	Thunder Basin	
Summit G. S.												Timbered Peak	21D18a	36	BN	6E	3000		
COLVILLE RIVER																			
Bird	17A6	19	36N	42E	3215	Crab Creek	21C11	27	34E	2440	Cayuse Pass	21C19	15	16N	10E	5300	Baker Pass		
Carlson	18A9	34	32N	41E	2885	Jack Woods	1B83m	28	27N	31E	2750	Mosquito Meadows	21C20	13	10N	7E	4100	Dock Butte	
Cheewah	17A4	11	34E	4925	Krause	1B84m	21	27N	33E	2420	Onanepoch	21C31	21	13N	10E	2300	Easy Pass		
Stranger Mountain	17A5	26	35E	4990	Sheffels	1B85m	17	27N	32E	2470	Packwood Lake	21C33P	11	13N	11E	2570	Jasper Pass		
Togo	18A10	6	29N	38E	3370	Sherman	1B86m	24	27N	33E	2440	Pigtail Peak	21C14	36	10N	10E	4500	Kono Kusian	
Sherman Creek Pass						Wheatridge						Portato Hill	21C30	3	13N	BE	3250	Marten Lake	
COLVILLE RIVER																			
Clark	19A8	2	36N	23E	7000	Antanum R. S.	21C11	24	12N	14E	3100	Big Boulder Creek	21B9P	35	23N	14E	3200	Rocky Creek	
McKamack	19A9	20	36N	24E	6750	Bumping Lake	21C56	13	16N	12E	3400	Bumping Lake New	21C56	13	16N	12E	3450	Schreibers Meadow	
Matton Creek No. 1	19A1	30	37N	24E	5700	Colockum Pass	21C53P	9	15N	12E	4600	Bumping Lake Ridge	21B3P	25	20N	5370	37N	S. F. Thunder Creek	
Matton Creek No. 2	19A4	19	37N	45E	5000	Coole Creek	20B9P	25	20N	5370	20B10	17	20N	14E	4123	Three Mile Creek			
Payayen	20A28a	32	40N	1BE	4300	Cooney Flat	21B44m	15	20N	14E	2200	Fish Lake	21B4P	28	14N	14E	3371	Tulip Creek	
Rusty Creek	19A3P	18	35E	4400	4000	Fish Lake	21C10P	3	12N	13E	6000	Green Lake	20B11P	29	21N	19E	5385	Wadsworth Creek	
Salmon Meadows	19A2P	33	37N	24E	4500	Grouse Camp	20B12	34	20N	19E	2930	High Creek	21B16a	22	23N	12E	4624	Wadsworth Creek	
Starvation Mtn.	19A10a	15	35N	23E	6750	Joe Lake	21B14m	15	20N	14E	2200	Lake Cle Elum	21B47a	7	23N	13E	5322	Wadsworth Creek	
Tours Coule	19A6	36	39N	25E	2845	Lemah Creek	20C1	24	17N	16E	3935	Manastash	20C17	6	16N	11E	5400	Wadsworth Creek	
Methow River	20A10a	10	3BN	20E	6400	Nanum	20B13	4	20N	19E	3875	Norse Lake	20B14	4	19N	11E	5050	Wadsworth Creek	
Billy Goat Pass	20A29a	8	39N	20E	7370	Trail Creek	21B8P	13	21N	11E	4500	Tunnel Avenue	21B10P	25	21N	11E	6000	Wadsworth Creek	
Harts Pass	20A5AP	7	37N	1BE	6500	Van Epps Pass	20B15	22	20N	19E	3360	Walters Flat	21B26a	16	15N	15E	5250	Wadsworth Creek	
Horseshoe Basin	19A5a	15	40N	1BE	7000	Wapiti Lake	21A9P	12	23N	13E	5024	White Pass (East Side)	21C28P	1	15N	11E	4500	Wadsworth Creek	
Loup Loup	19A7	36	34N	23E	4650	White Pass (Leach Lake)	21C27	1	13N	11E	4500	Wadsworth Creek	21B27	14	20N	BE	3200	Wadsworth Creek	
Cloudy Pass	20A2a	12	31N	15E	6500	Wadsworth Creek	21B24	18	20N	11E	1800	Charley Creek	21B28	12	21N	17E	1200	Wadsworth Creek	
Greenwood Flat	20A25a	3	31N	16E	3540	Wadsworth Creek	21B25	27	21N	11E	1800	Cougar Mountain No. 2	21B42P	21	21N	9E	3200	Wadsworth Creek	
Little Meadows	20A4a	8	31N	16E	5275	Wadsworth Creek	21B49a	12	23N	13E	4500	Grass Mountain No. 2	21B27	14	20N	BE	3200	Wadsworth Creek	
Lyman Creek	20A23a	18	34N	16E	5900	Wadsworth Creek	21B28P	1	15N	11E	4500	Lester Creek	21B29	36	20N	10E	3100	Wadsworth Creek	
Park Creek Flat	20A13a	19	34N	16E	2200	Wadsworth Creek	21B50	22	20N	BE	4700	Lynn Lake	21B50	22	20N	10E	3100	Wadsworth Creek	
Park Creek Ridge	20A12a	18	34N	16E	4600	Wadsworth Creek	21B51	15	19N	11E	4700	Sawmill Ridge	21B51	5	19N	11E	4700	Wadsworth Creek	
Petersons	20A16a	3	34N	17E	3730	Wadsworth Creek	21B52	1	15N	11E	4700	Shoestring Butte	21B52	20	20N	11E	5000	Wadsworth Creek	
Rainy Pass	20A9	20	35N	17E	4780	Wadsworth Creek	21B53	1	15N	11E	4700	Stampede Pass	21B10P	25	21N	11E	5000	Wadsworth Creek	
Seattle Harbor	20A50a	32	32N	17E	7000	Wadsworth Creek	21B54	1	15N	11E	4700	Twin Camp	21B30	18	19N	11E	4700	Wadsworth Creek	
War Creek Pass	20A31a	34	33N	18E	6500	Wadsworth Creek	21B55	1	15N	11E	4700	Wadsworth Creek	21B31	1	15N	11E	4700	Wadsworth Creek	
CHelan Lake Basin																			
Cloudy Pass	20A2a	12	31N	15E	6500	Astotin Creek	17C4	9	BN	40E	5700	Cedar River	21B5	10	21N	10E	2390	Deer Park	
Greenwood Flat	20A25a	3	31N	17E	3325	Spruce Springs						City Cabin	21B21P	30	22N	10E	3300	Deer Park	
Little Meadows	20A4a	8	31N	16E	5275	Mill Creek	17C3m	2	9N	40E	3370	Mt. Gardner Aux.	21B32	31	22N	10E	2500	Deer Park	
Four Mile Ridge	20A27a	15	2BN	19E	6800	Couse	17C1m	11	9N	40E	4030	Mt. Linday	21B16	31	22N	9E	2500	Deer Park	
Fox Camp	20A56a	17	30N	1BE	6510	Homestead	17C2m	23	9N	40E	4400	Mt. Washington	21B15	8	21N	9E	3000	Deer Park	
Pope Ridge	20B20P	22	29N	1BE	3540	Martin Springs (Helmers SM)	17C2m	23	9N	40E	4400	Rex River	21B17	11	21N	9E	2400	Deer Park	
Pope Ridge Snow Pillow	20A45P	22	29N	1BE	3540	White Lake	21B15	1	21N	17E	24	South Fork Cedar	21B6	24	21N	10E	3000	Deer Park	
Pugh Ridge	20A2a	34	30N	18E	6725	White Lake	21B15	1	21N	17E	24	Tinkham Creek	21B20	1	21N	10E	3400	Deer Park	
Shay Pass	20A37	20	29N	19E	6200	White Lake	21B15	1	21N	17E	24							Deer Park	
Shay Pass	20A55a	21	30N	17E	3910	Satus Pass	20B1	21	6N	17E	4030							Deer Park	
Tommy Creek	20B21a	10	2BN	18E	4900														Deer Park
WHITE SNAKE RIVER																			
Berne-Mill Creek (New)	21B23	7	26N	15E	3170	White Salmon River	21C12	35	7N	BE	4000	Snoqualmie River	21B4B	31	27N	9E	3500	Deer Park	
Berne-Mill Pass No. 2	20A82	.35	22N	17E	4270	Cultus Creek	21B18	26	17N	12E	4270	Alpine Meadow	21B18	19	22N	11E	3625	Deer Park	
Chiwaukum G. S.	20B16	4	25N	17E	1B10	Lewis River	21C22a	19	9N	BE	4800	Dialle Meadow	21B18	26	26N	9E	1900	Deer Park	
Lake Wenatchee	20B25	33	27N	17E	1970	Lewis River	21C22P	25	BN	7E	2200	South Fork Tolt	21B18	26	25N	8E	3900	Deer Park	
Leavenworth R. S.	20B17	1	24N	17E	1127	Blue Lake	21C23a	19	9N	BE	4500	White Lake	21B17	1	24N	17E	3000	Deer Park	
Calamity Ridge	20B18	4	26N	13E	4070	Bob's Trail	22D6P	24	21N	10E	3000	White Lake	21B18	24	21N	10E	3400	Deer Park	
Council Pass	21C18a	24	26N	19E	3700	Satus Pass	21C18a	24	9N	9E	4200	Lake Elizabeth	21B19	33	26N	10E	2900	Deer Park	
SKAGIT RIVER																			
Beaver Creek Trail	21A19	34	32N	14E	3240	Divide Meadow	21A19	9	BN	9E	3500	Beaver Creek Trail	21A19	9	39N	12E	3680	Skagit River	
Colockum Creek	21A20	11	20N	20E	4300	Lone Pine Shelter	21A20	26	40N	12E	3600	Brown Top	21A20	19	39N	11E	5900	Skagit River	
Colockum Creek Lower	20B23	1	20N	20E	4300	Marble Mountain	21A25a	24	BN	5E	3200	Freezeout Creek Trail	21A25a	24	39N	12E	3600	Skagit River	
Squilchuck Creek	20B4	18	21N	20E	3400	Didman Pass	21D19P	22	BN	7E	3100	Freezeout Creek Trail	21D19P	22	39N	12E	3600	Skagit River	
BAKER RIVER																			
Birch Woods	21A27a	1	27N	12E	3800	Divide Meadow	21A27a	1	27N	12E	3800	Baker Pass	21A27a	1	37N	7E	4900	Baker River	
Caribou	21A27b	1	27N	12E	3800	Easy Pass	21A27b	1	27N	12E	3800	Easy Pass	21A27b	1	37N	7E	5200	Baker River	
Chewah	21A2																		



INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
UPPER COLUMBIA DRAINAGE																	
Pend Oreille River	Trough #2					Wenatchee River (continued)	20B25SP 10	20N	10E			Lewis River (continued)	21A4	35	39N	12E	2200
Boyer Mountain	17A2	7	31N	13E	5250	Divide Meadow	21C29a	21	9N	10E	5600	Beaver Creek Trail	21A1	9	39N	12E	3680
Buncgrass Meadow	17A1	24	37N	44E	5000	Grand Meadow	21C25P	28	BN	9E	3500	Brown Top	21A2Ba	26	40N	12E	6000
Winchester Creek	17A3	30	33N	43E	2970	Colock Creek, Upper	20B22	11	20N	20E	5300	Marble Mountain	21C26P	24	BN	7E	3800
Boulder Road	18A2	36	39N	36E	1450	Colock Creek, Lower	20B23	1	20N	20E	4300	New Muddy River	21C26P	36	BN	SE	3200
Butte Creek	18A3	28	33N	35E	4070	Squilchuck Creek	20B3	12	21N	19E	4400	Oldman Pass	21C19P	22	6N	2000	Freezeout Creek Trail
Cabin Creek	18A1	5	38N	56E	3170	Beehive Springs	20B4	1B	21N	20E	3400	Plains of Abraham	21C21a	35	9N	5E	4400
Goat Creek	18A4	26	33N	55E	3535	Scout-A-Vista						Smith Creek Road	21C24	29	9N	6E	3500
Snow Caps Creek	18A5	3	38N	56E	2150	Stemilt Creek						Spencer Meadow	21C20a	16	7N	2100	4400
Snow Caps Trail	18A6	5	38N	56E	2720	Jump-Off	20B6	34	21N	20E	4450	Surprise Lakes	21C13P	14	7N	BE	3400
Summit G. S.	18A7	20	39N	35E	4600	Stemilt Slide	20B7P	30	21N	20E	5000	Table Mountain	21C24a	5	9N	2100	4250
Upper Wheeler						Upper Wheeler	20B7P	30	21N	20E	4400	Timbered Peak	21B10a	36	6N	6E	3000
Baird	17A6	19	36N	42E	3215	Crob Creek	1B8P	32	27N	34E	2440	Cayuse Pass	21C6	1S	16N	10E	5300
Carlson	18A9	11	36N	38E	2885	1B83n	2B	27N	34E	2750	Mosquit Meadows	21C19	33	10N	7E	4100	
Charvelah	17A4	11	32N	41E	4925	1B83m	21	27N	33E	2420	Ohanapecosh	21C52	28	15N	10E	2200	
Stranger Mountain	17A5	26	31N	38E	4990	Sheffels	1B83n	17	27N	32E	2378	Pacwood Lake	21C13	21	13N	10E	2870
Togo	18A10	6	29N	35E	3370	Sherman	1B83m	24	27N	32E	2440	Pigtail Peak	21C33P	11	13N	10E	5300
Sandpail River						Wheatridge	1B83m	24	25N	33E	2290	Potato Hill	21C14	36	10N	10E	4500
Sherman Creek Pass	18A1	19	36N	35E	5350	Yakima River						Mount Blum	21A18	27	3BN	10E	3250
Okanogan River						Antanum R. S.	21C11	24	12N	14E	3100	Rocky Creek	21A12AP	20	37N	BE	2100
Big Boulder Creek						Bumping Lake	21C8P	35	23N	14E	3200	Schreibers Meadow	21A14	20	36N	9E	2200
Bumping Lake						Colock Creek	21C16	13	16N	12E	3450	Sulphur Creek	21A13	22	37N	BE	1600
New						Colock Pass	21C16P	9	15N	12E	3400	Three Mile Creek	21A15	18	36N	9E	1600
Muckamack	19A8	2	36N	23E	7000	Cooke Creek	20B9	25	20N	10E	4600	Watson Lakes	21B18P	25	37N	9E	4500
Murton Creek No. 1	19A1	30	37N	24E	6750	Conney Flat	21B40	17	19N	20E	4123	Bald Mountain	21A19a	7	40N	7E	4400
Murton Creek No. 2	19A4	19	37N	24E	6000	Fish Lake	21B4P	28	24N	14E	2200	Canyon	21A23	9-10	40N	BE	3700
Payson Creek	20A28a	32	40N	18E	4300	Grouse Camp	20B1P	3	21N	19E	6000	Glacier Creek	21A26	17	39N	9E	4300
Rusty Creek	19A3P	33	37N	24E	4500	High Creek	20B12	34	20N	19E	5385	Panorama New	21A23SP	17	39N	9E	4300
Salmon Meadows	19A10a	15	35N	23E	6750	Joe Lake	21B6a	22	23N	12E	4624	Twin Lakes	21A21a	16	40N	9E	5200
Starvation Mtn.	19A6	30	39N	25E	2845	Lake Co. Elum	21B14M	15	20N	14E	2200	Paradise Park (New)	21C13	13	15N	BE	5050
Touts Coulee						Lemah Creek	21B7a	7	23N	13E	3327	Stem Glade	21C11	13	15N	BE	5050
Billy Goat Pass	20A10a	10	38N	20E	6400	Manas Pass	20C1	24	17N	16E	3955	White River	21B13	30	1BN	11E	6000
Dollar Watch	20A29a	8	37N	18E	6500	Morse Lake	21C7P	6	16N	16E	3400	Corral Pass	20A10	20	23N	10E	4000
Harts Pass	20A30a	7	37N	18E	6500	Numan	20B13	4	20N	19E	3875	Corral Pass	21B13	30	1BN	11E	6000
Lou Loup	19A7	36	34N	23E	4650	Tunnel Avenue	20B14	20	19N	20E	3360	Green River	21B4	1B	20N	11E	5200
Chelan Lake Basin						Van Eps Pass	20B26a	16	23N	15E	3525	Beer Park	21B4	1B	20N	11E	1B00
Cloudy Pass	20A22a	12	31N	15E	6500	Walters Flat	20B15	2	21N	11E	3560	Airstrip	21B4SP	21	21N	9E	3200
Greenwood Flat	20A25a	3	31N	16E	5200	Waptus Lake	21B9a	12	23N	13E	3024	Charley Creek	21B4SP	27	21N	12E	1200
Little Meadows	20A24a	8	31N	16E	5275	White Pass (Fast Side)	21C27	1	13N	11E	4500	Cougar Mountain No. 2	21B4SP	21	20N	8E	2900
Lyman Lake	20A23a	18	31N	16E	5200	White Pass (Leach Lake)						Grass Mountain No. 2	21B2B	14	20N	12E	2100
Park Creek, Flat	20A31a	19	34N	16E	4600						Lester Creek	21B29	36	20N	10E	3100	
Park Creek, Ridge	20A12a	18	34N	16E	4600						Lynn Lake	21B30	22	20N	10E	4000	
Petersons	20A16a	3	34N	17E	3730						Sawmill Ridge	21B31	5	19N	11E	4700	
Rainy Pass	20A9	21	35N	17E	4580						Stampede Pass	21B34P	14	20N	11E	4200	
Safety Harbor	20A30a	32	31N	20E	6500						Twin Camp	21B30	1B	19N	11E	3200	
War Creek Pass	20A31a	34	33N	18E	6500						Black and White Lakes	23B6	16	24N	7W	4700	
Blue Creek G.S.	20B28a	19	28N	18E	5425						Four Stream	23B10	1	23N	6W	3000	
Brief	20B19	34	28N	19E	1600						Home Sweet Home	23B5	2B	23N	5W	3200	
Entiat Meadows	20A33a	2B	31N	17E	4540						Sundown Pass	23B8	25	24N	7W	3900	
Entiat River Trail	20A34a	2	29N	17E	3325												
Four Mile Ridge	20B27a	15	29N	19E	6800												
Fox Camp	20B20P	22	29N	18E	3540												
Pope Ridge	20B24SP	22	29N	18E	3540												
Pope Ridge	20A32a	34	30N	18E	6725												
Shady Pass	20A37	20	29N	19E	6200												
Snow Brushy	20A55a	31	30N	17E	4910												
Tommy Creek	20B21a	10	28N	18E	4910												
Wenatchee River																	
Berne-Mill Creek (New)	21B13	7	26N	15E	3170	White Salmon River	21C12	35	7N	BE	4000						
Berne-Mill Creek, Blewett Pass No. 2	21B14SP	13	26N	14E	3240	Cultus Creek						Alpine Meadow	21B2	31	27N	9E	3500
Chiwaukum G. S.	20B2P	35	22N	17E	4270	Spruce Springs	17C4	9	BN	40E	5700	Ollie Meadow	21B2	19	22N	11E	3625
Lake Wenatchee	20B16	4	25N	17E	1810						South Fork Tolt	21B1B	26	26N	9E	1900	
Merritt	20B3	33	27N	17E	1217												
Leavenworth R. S.	20B17	1	24N	17E	1217												
Stevens Pass Sand Shed	20B18	4	26N	16E	2140												
Stevens Pass	20B19	14	26N	13E	4070												
Blue Creek G.S.	21B13	7	26N	15E	3170												
Berne-Mill Creek (New)	21B14SP	13	26N	14E	3240												
Berne-Mill Creek, Blewett Pass No. 2	21B15P	35	22N	17E	4270												
Chiwaukum G. S.	21B16	4	25N	17E	1810												
Lake Wenatchee	21B17	1	24N	17E	1217												
Leavenworth R. S.	21B18	4	26N	16E	2140												
Leavenworth R. S.	21B19	14	26N	13E	4070												
Leavenworth R. S.	21B1A	24	26N	13E	3700												
Leavenworth R. S.	21B1B	24	26N	13E	3700												
Leavenworth R. S.	21B1C	24	26N	13E	3700												
Leavenworth R. S.	21B1D	24	26N	13E	3700												
Leavenworth R. S.	21B1E	24	26N	13E	3700												
Leavenworth R. S.	21B1F	24	26N	13E	3700												
Leavenworth R. S.	21B1G	24	26N	13E	3700												
Leavenworth R. S.	21B1H	24	26N	13E	3700												
Leavenworth R. S.	21B1I	24	26N	13E	3700												
Leavenworth R. S.	21B1J	24	26N	13E	3700												
Leavenworth R. S.	21B1K	24	26N	13E	3700												
Leavenworth R. S.	21B1L	24	26N	13E	3700												
Leavenworth R. S.	21B1M	24	26N	13E	3700												
Leavenworth R. S.	21B1N	24	26N	13E	3700												
Leavenworth R. S.	21B1P	24	26N	13E	3700												
Leavenworth R. S.	21B1Q	24	26N	13E	3700												
Leavenworth R. S.	21B1R	24	26N	13E	3700												
Leavenworth R. S.	21B1S	24	26N	13E	3700												
Leavenworth R. S.	21B1T	24	26N	13E	3700												
Leavenworth R. S.	21B1U	24	26N	13E	3700												
Leavenworth R. S.	21B1V	24	26N	13E	3700												
Leavenworth R. S.	21B1W	24	26N	13E	3700												
Leavenworth R. S.	21B1X	24	26N	13E	3700												
Leavenworth R. S.	21B1Y	24	26N	13E	3700												
Leavenworth R. S.	21B1Z	24	26N	13E	3700												

WATER SUPPLY OUTLOOK

State of Washington

February 1, 1978

SNOW COVER

The well above normal snow cover that was generally experienced last month has not continued. This has been a result of lack of input in the high mountain watersheds. Precipitation has generally been occurring in the form of rain and this has not changed, as it normally does with elevation, to snow in the higher watersheds. East of the Cascades, only the Spokane River Drainage has below normal snow packs while the other drainages all have normal to above normal conditions as of February 1. In the Lower Columbia Drainages, the watersheds have well below normal snow cover as of this time. On the west side, drainages are more nearly normal with only the Skagit and Skykomish indicating above normal snow covers and, as previously stated, on the Olympic Peninsula, the Elwha Drainage is 46 percent below normal. Comparisons with last year are made in the tabulation following the forecasts. These comparisons are ridiculously high but, again, the snow pack last year was ridiculously low.

RESERVOIRS

The amount of water stored in both irrigation and power reservoirs varies considerably from excellent to poor. The five irrigation reservoirs in the Yakima Drainage have excellent amounts of water in storage and with anticipated runoff and controls should cause no problem with the water users below. The two small reservoirs in the Okanogan Drainage in Washington are not as fortunate. Continued above normal precipitation and favorable melt conditions will have to occur for these reservoirs to comfortably fill this spring. Power reservoirs are also variable, with only Ross Reservoir in the Skagit Drainage indicating above normal amounts of water in storage. Forecasted flows to these reservoirs indicate there should be no problem in filling during the spring runoff period.

PRECIPITATION

As reported by the National Weather Service, rainfall was below normal in all drainage divisions, with the exception of the central Washington area, during the month of January. This poor rainfall was not sufficient to overcome the above normal conditions that have occurred from November to this date. Only the Columbia above Castlegar has a November through January winter precipitation that still is below normal. During the fall period, precipitation was highly variable by watersheds. September rainfall was well above normal - October well below, for a September-October period that was near normal in most cases.

STREAMFLOW

During January, all streamflow was reported to be subnormal with the exception of one low elevation stream in the Lower Columbia Drainage. The lack of precipitation previously mentioned is the main reason for this low streamflow and localized storms increased the flow of the Klickitat River at Pitt to its above normal stage. The main stem of the Columbia had a flow that ranged from 86 percent of normal at Birchbank to 93 percent of normal at The Dalles. Flow of the Yakima River, as measured at Kiona, was 94 percent of normal. The lowest flow occurred in the Green River, as measured below Howard Hanson Dam. During January the flow of this stream was only 39 percent of normal. Forecasts of snow melt streamflow are for generally near normal amounts and range from 82 percent of normal for the Dungeness River near Sequim to a high of 19 percent above normal for the Entiat River near Ardenvoir. Numerical forecasts can be found on the following pages.

STREAMFLOW FORECASTS - FEBRUARY, 1978

The following summarized runoff forecasts are based principally on mountain snow-cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. Streamflow figures for 1977 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1978	Seasonal Streamflow in Thousands of Acre-Feet						15-Yr. Average 58-72
		% 15-Yr. Avg.	Fore- cast period	1977	1976	1975		

COLUMBIA BASIN

COLUMBIA RIVER SYSTEM **

Columbia River at Birchbank 1/	42900 34700 25350	92 92 92	Apr-Sept Apr-July Apr-June	31583 23839 18040	53937 38979 26054	41101 32944 22429	46410 37548 27549
Columbia River at Grand Coulee 1/	67200 56900 44700	97 97 97	Apr-Sept Apr-July Apr-June	41805 32813 26413	80974 62715 46556	66501 55870 41377	69020 58368 46049
Columbia River bl. Rock Island Dam 1/	74900 63800 50100	99 99 99	Apr-Sept Apr-July Apr-June	43659 34392 27740	86849 67890 50520	73553 62727 46759	75290 64181 50594
Columbia River at The Dalles, Or 1/	108000 93000 76100	103 104 104	Apr-Sept Apr-July Apr-June	54130 42939 35577	122876 99965 79164	108901 94195 73012	104600 89875 73143

PEND OREILLE RIVER SYSTEM **

Pend Oreille River bl. Box Canyon	16900 15600 13500	106 106 106	Apr-Sept Apr-July Apr-June	6041 5312 4816	17638 15979 13687	16946 15271 11814	15950 14677 12767
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KETTLE RIVER SYSTEM

Kettle River nr. Laurier	1960 1840 1675	104 102 102	Apr-Sept Apr-July Apr-June	1154 1114 1045	2434 2112 1826	1860 1779 1592	1873 1794 1640
Colville River at Kettle Falls	165 155 145	111 113 113	Apr-Sept Apr-July Apr-June		123 106 98	225 203 187	148 137 128

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

** Forecasts made by National Weather Service, River Forecast Center, Portland, OR

Basin, Stream and Station	Forecast Runoff 1978	Seasonal Streamflow in Thousands of Acre-Feet						15-Yr Average
		% 15-Yr. Avg.	Fore- cast period	1977	1976	1975		
		1978					58-72	
<u>SPOKANE RIVER SYSTEM***</u>								
Spokane River at Post Falls, ID	2850 2760 2620	95 95 95	Apr-Sept Apr-July Apr-June	1066 1014 960	3215 3069 2884	3418 3275 3033	2982 2899 2773	
<u>OKANOGAN RIVER SYSTEM **</u>								
Similkameen River nr. Nighthawk	1770 1660 1430	117 117 117	Apr-Sept Apr-July Apr-June	641 598 541	1944 1720 1347	1434 1339 1092	1516 1424 1222	
Okanogan River nr. Tonasket	1950 1790 1525	113 113 113	Apr-Sept Apr-July Apr-June	705 643 582	2185 1836 1382	1582 1437 1181	1723 1582 1349	
<u>METHOW RIVER SYSTEM **</u>								
Methow River nr. Pateros	1200 1120 965	116 116 116	Apr-Sept Apr-July Apr-June		1205 1047 802	992 911 728	1031 963 832	
<u>CHELAN RIVER SYSTEM</u>								
Chelan River at Chelan	1470 1320 1070	117 118 121	Apr-Sept Apr-July Apr-June	589 474 397	1466 1184 836	1364 1210 858	1253 1112 881	
Stehokin River at Stehokin	1025 890 695	113 115 116	Apr-Sept Apr-July Apr-June		1010 787 523	1040 796 526	904 776 600	
Entiat nr. Ardenvoir	285 265 220	119 120 122	Apr-Sept Apr-July Apr-June		310 266 190	268 244 182	239 220 180	
<u>WENATCHEE RIVER SYSTEM</u>								
Wenatchee River at Plain	1455 1325 1130	111 112 118	Apr-Sept Apr-July Apr-June		1510 1263 891	1396 1262 924	1312 1187 956	
Wenatchee River at Peshastin	2000 1875 1535	112 115 116	Apr-Sept Apr-July Apr-June	855 744 662	2074 1746 1238	1920 1738 1279	1786 1629 1324	
Stemilt Basin nr. Wenatchee	140*	101	May-Sept			144*	134*	138*
Icicle Creek nr. Leavenworth	440 395 335	119 116 120	Apr-Sept Apr-July Apr-June				371 342 279	

** Forecasts made by National Weather Service, River Forecast Center, Portland, OR

*** Forecasts made by Jack A. Wilson, Soil Conservation Service, Boise, Idaho.

2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.

* Thousands of Miners' Inches.

Basin, Stream and Station	Forecast Runoff 1978	Seasonal Streamflow in Thousands of Acre-Feet						15-Yr. Average 58-72
		% 15-Yr. Avg.	Fore cast period	1977	1976	1975		
YAKIMA RIVER SYSTEM								
Yakima River nr. Martin <u>4/</u>	130 118 110	92 90 95	Apr-Sept Apr-July Apr-June	80 70 67	157 141 117	168 154 127	142 131 116	
Yakima River at Cle Elum <u>5/</u>	910 805 722	94 92 95	Apr-Sept Apr-July Apr-June		1091 980 807	1112 1012 852	968 877 764	
Yakima River nr. Parker <u>6/</u>	1780 1770 1650	103 104 104	Apr-Sept Apr-July Apr-June		1278 2006 1702	2229 2141 1859	1730 1701 1580	
Kachess River nr. Easton <u>7/</u>	116 106 101	93 90 95	Apr-Sept Apr-July Apr-June	60 55 54	142 131 109	154 145 120	125 118 106	
Cle Elum River nr. Roslyn <u>8/</u>	467 425 375	98 97 101	Apr-Sept Apr-July Apr-June	248 211 192	561 484 370	539 492 388	477 437 372	
Bumping River nr. Nile <u>9/</u>	147 137 110	101 102 98	Apr-Sept Apr-July Apr-June	65 60 55	175 152 109	179 163 119	146 134 112	
American River nr. Nile	132 125 105	103 106 105	Apr-Sept Apr-July Apr-June		132 116 86	149 137 104	128 118 100	
Tieton River at Tieton Dam <u>10/</u>	260 210 175	105 100 102	Apr-Sept Apr-July Apr-June	123 94 77	302 242 179	299 253 187	247 211 172	
Naches River nr. Naches <u>11/</u>	925 835 695	104 103 100	Apr-Sept Apr-July Apr-June		1046 908 717	1054 952 761	889 810 698	
Ahtanum Creek nr. Tampico <u>12/</u>	53 48 42	110 110 108	Apr-Sept Apr-July Apr-June		51 45 37	57 51 44	48 44 39	

4/ Observed flow corrected for storage in Lake Keechelus.

5/ Observed flow corrected for storage in Keechelus, Kachess and Cle Elum Lakes and diversion by Kittitas Canal.

6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation and Sunnyside Canals.

7/ Observed flow corrected for storage in Lake Kachess.

8/ Observed flow corrected for storage in Lake Cle Elum.

9/ Observed flow corrected for storage in Bumping Lake.

10/ Observed flow corrected for storage in Rimrock Lake.

11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals and City of Yakima.

12/ Observed flow of North and South Forks (Combined).

Basin, Stream and Station	Forecast Runoff 1978	Seasonal Streamflow in Thousands of Acre-Feet					
		% 15-Yr. Avg.	Fore- cast period	1977	1976	1975	15-Yr. Average 58-72
<u>LOWER COLUMBIA RIVER SYSTEM</u>							
Mill Creek nr. Walla Walla	25 22 19	93 92 90	Apr-Sept Apr-July Apr-June		41 36 32	39 34 30	27 24 21
Lewis River at Ariel <u>13/</u>	1220 1065 950	92 93 92	Apr-Sept Apr-July Apr-June	1040 831 761	1285 1130 990	1188 1022 885	1319 1151 1028
Cowlitz River ** bl. Mayfield Dam	2200 1950 1650	105 106 105	Apr-Sept Apr-July Apr-June		2296 1963 1584	2127 1852 1451	2101 1846 1578
Cowlitz River ** at Castle Rock <u>14/</u>	2855 2550 2150	103 106 103	Apr-Sept Apr-July Apr-June	2172 1778 1603	2924 2493 2063	2646 2278 1816	2773 2416 2083

OLYMPIC PENINSULA

<u>DUNGENESS RIVER SYSTEM</u>						
Dungeness River nr. Sequim	135 115 85	82 84 82	Apr-Sept Apr-July Apr-June		160 128 91	149 118 82
						165 137 104

PUGET SOUND

<u>SKAGIT RIVER SYSTEM</u>						
Skagit River at Newhalem <u>15/</u>	2540	105	Mar-Aug		2841 2339	2418

13/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.

14/ Observed flow corrected for storage in Mayfield Reservoir.

15/ Observed flow corrected for storage in Diablo, Ross and Gorge Reservoirs.

** Forecasts made by National Weather Service, River Forecast Center, Portland, OR

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about February 1, 1978 as percent of the same date in 1977 and 1976 and average of record.

Tributary Basin	No. of Courses Average	1978 Snow Water Expressed as percent of		
		1977	1976	1958-72 Avg.

UPPER COLUMBIA BASIN

Pend Oreille	8	441	169	106
Kettle	15	309	124	111
Colville	5	934	195	102
Spokane	4	286	111	92
Okanogan	30	616	119	117
Methow	6	1946	143	106
Chelan	1	488	97	127
Entiat	11	1347	106	139
Wenatchee	9	820	120	112
Yakima	24	1005	130	109
Ahtanum	2	1204	256	137

LOWER COLUMBIA

Mill Creek	3	421	59	62
Klickitat	1	-	383	79
White Salmon	2	668	107	74
Lewis	16	894	72	47
Cowlitz	3	1016	110	85

PUGET SOUND

White	3	878	95	96
Green	8	960	58	63
Snoqualmie	1	2900	72	71
Skykomish	2	942	98	107
Skagit	12	805	88	117
Nooksack	1	640	100	-
Baker	6	472	94	98

OLYMPIC PENINSULA

Morse	1	-	90	-
Elwha	1	-	74	54
Dungeness	1	-	-	-

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR STREAM	RESERVOIR	USABLE 1/ CAPACITY	1978	Measured (February)			Normal*
				1977	1976	Normal*	
<u>COLUMBIA</u>							
Spokane	Coeur d'Alene Lake	225.1	134.7	21.7	169.1	138.4	
Columbia	Franklin D. Roosevelt Lake	5232.0	3149.2	4172.0	5116.0	3766.0	
Columbia	Banks Lake	714.9	714.9	704.2	712.2	566.9	
Okanogan	Conconully Reservoir	13.0	2.9	8.0	10.0	10.8	
Okanogan	Salmon Lake	10.5	6.0	9.6	9.8	7.6	
Chelan	Lake Chelan	676.1	274.6	258.2	513.5	295.9	
<u>YAKIMA</u>							
Yakima	Keechelus Lake	157.8	139.5	65.6	118.3	96.1	
Kachess	Kachess Lake	239.0	188.1	192.4	206.8	175.7	
Cle Elum	Lake Cle Elum	436.9	248.7	382.0	308.4	232.9	
Bumping	Bumping Lake	33.7	24.5	4.4	11.4	8.3	
Tieton	Rimrock Lake	198.0	135.2	128.1	140.0	110.6	
<u>PUGET SOUND</u>							
Skagit	Ross Reservoir	1404.1	1001.8	769.7	1258.7	582.1	
Skagit	Diablo Reservoir	90.6	85.2	83.5	88.0	84.4	
Skagit	Gorge Reservoir	9.8	8.2	8.4	8.3	-	

1/ Based on Active Storage

* 15-year Average 1958-72

SOIL MOISTURE - FEBRUARY

Drainage Basin and Station	Number	Elev.	Profile	Inches Total Capacity	Soil Moisture Content		
					1978	1977	1976
<u>OKANOGAN</u>							
Salmon Meadows	19A2M	4500	48	5.4	-	Frozen	3.6
Trout Creek	3-M	3600	48	7.3	3.5	3.3	4.8
<u>YAKIMA</u>							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
<u>WALLA WALLA</u>							
Couse	17C3m	3650	48	11.1	8.0	-	-
Helmers	17C2M	4400	48	12.0	9.8	-	-
<u>WENATCHEE</u>							
Upper Wheeler	20B7M	4400	48	12.7	9.9	6.8	11.6

FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile	Inches Total Capacity	Soil Moisture Content (Inches) as of Oct. 1		
					1977	1976	1975
<u>OKANOGAN</u>							
Salmon Meadows	19A02M	4500	48	5.4	-	3.4	3.2
Trout Creek	3-M	3600	48	7.3	3.2	3.4	3.1
<u>YAKIMA</u>							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
<u>WALLA WALLA</u>							
Couse	17C3m	3650	48	11.1	-	-	7.3
Helmers	17C2M	4400	48	12.0	-	-	6.5
<u>WENATCHEE</u>							
Upper Wheeler	20B7M	4400	48	12.7	6.6	-	8.6

PRECIPITATION 1/

Division Average Observations and Departures

Drainage Divisions	FALL		WINTER	
	Sept-Oct Observed	1977 2/ Departure	Nov-Dec 1977 Observed	Jan 1978 2/ Departure
Columbia in Canada	3.41	-1.61	10.09	-1.04
Pend Oreille - Spokane	4.10	+0.06	13.46	+1.28
Northeastern Washington	2.06	-0.41	7.70	+0.99
Southeastern Washington	2.51	0.0	8.36	+1.30
Central Washington	1.08	+0.11	5.41	+1.66
North Central Washington	1.39	-0.21	5.98	+1.14
Northwest Slope Cascades	11.16	-2.05	42.06	+4.13
Southwest Slope Cascades	9.42	+0.74	32.36	+3.45
Northeastern Washington			- Lower Spokane, Colville, Sanpoil and Lower Kettle Drainages.	
Southeastern Washington			- Touchet, Tucannon and Palouse Drainages.	
Central Washington			- Yakima, Wenatchee and Chelan Drainages.	
North Central Washington			- Methow and Okanogan Drainages.	
Northwest Slope Cascades			- Puget Sound Drainages.	
Southwest Slope Cascades			- Lower Columbia Drainages.	

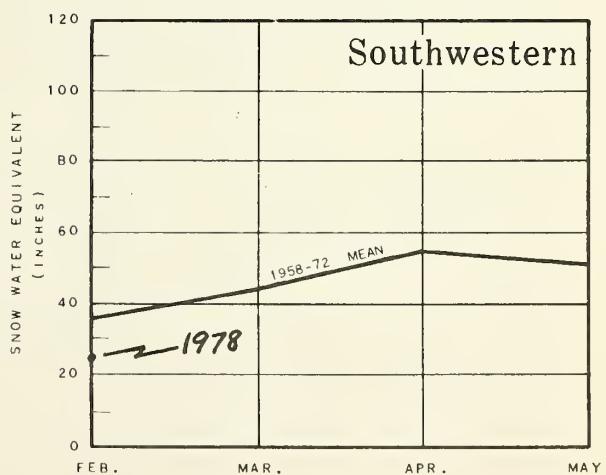
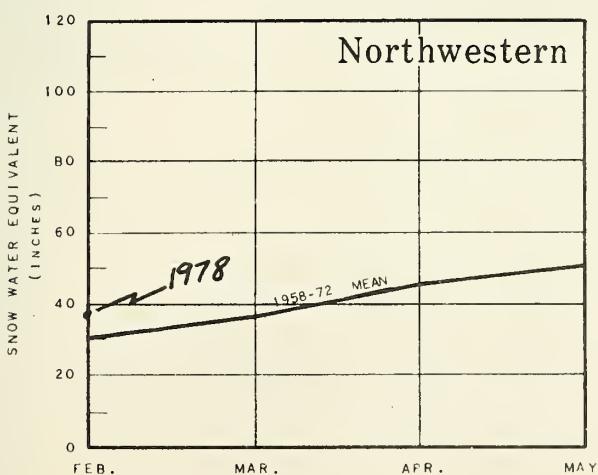
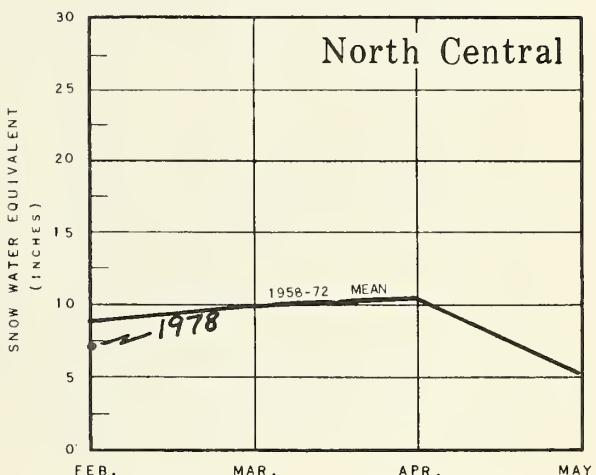
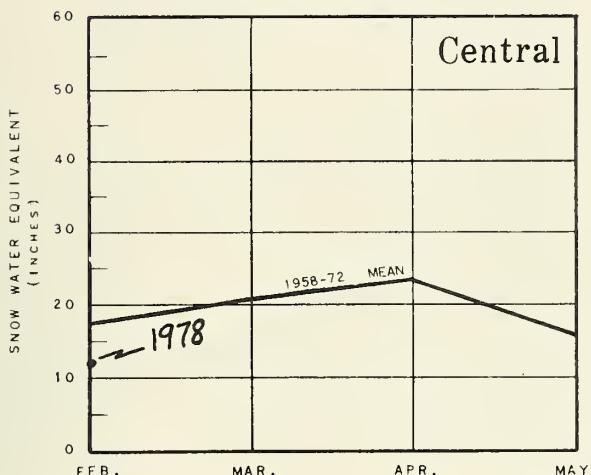
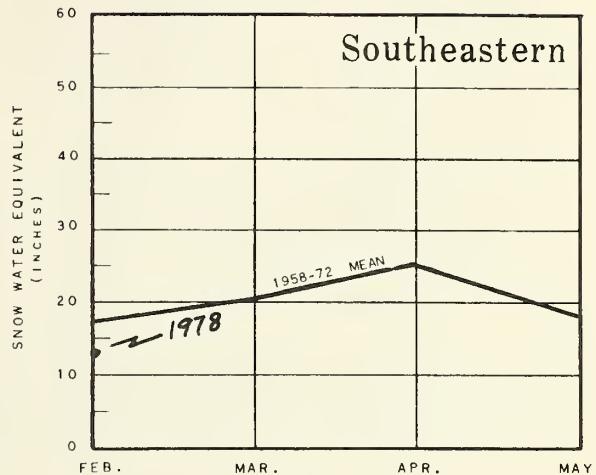
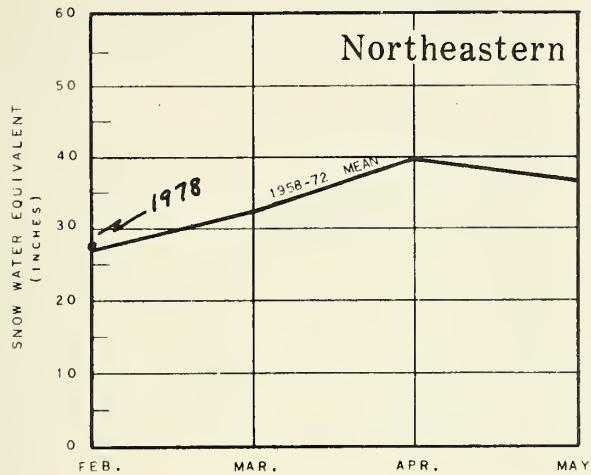
1/ - Preliminary analysis by National Weather Service from data furnished by Meteorlogical Services of Canada and the National Weather Service.

2/ - Departure from 15-year (1958-72) drainage division average.

WASHINGTON SNOW COVER

1978

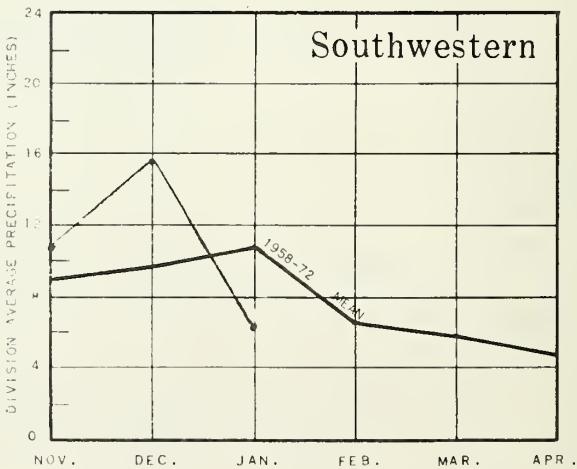
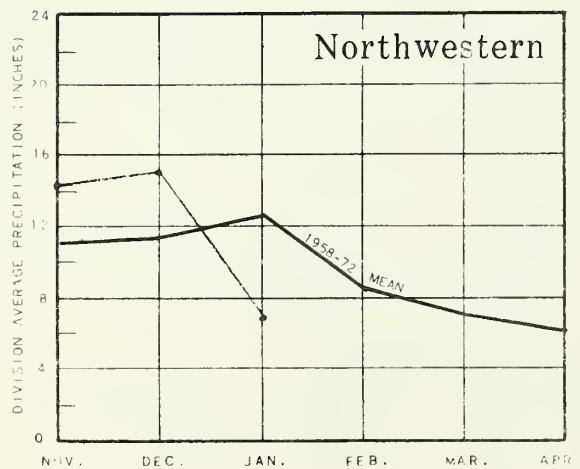
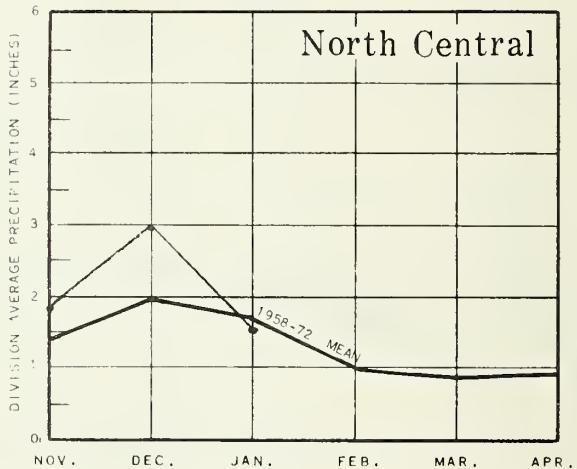
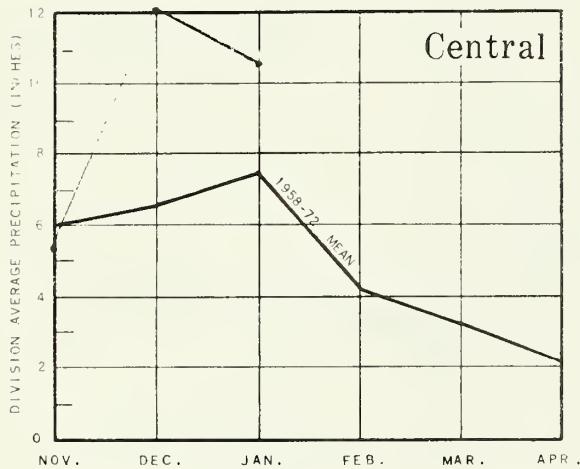
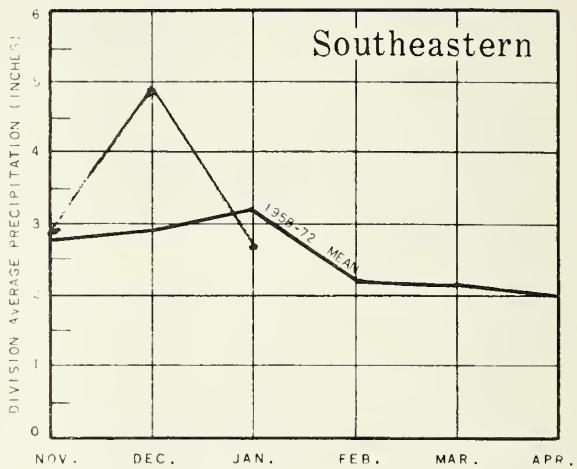
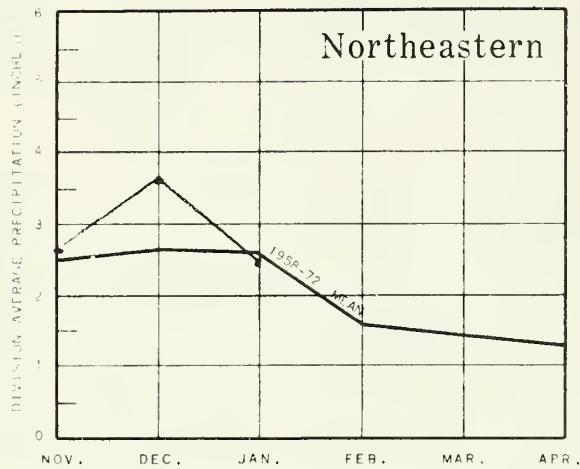
DRAINAGE AREAS



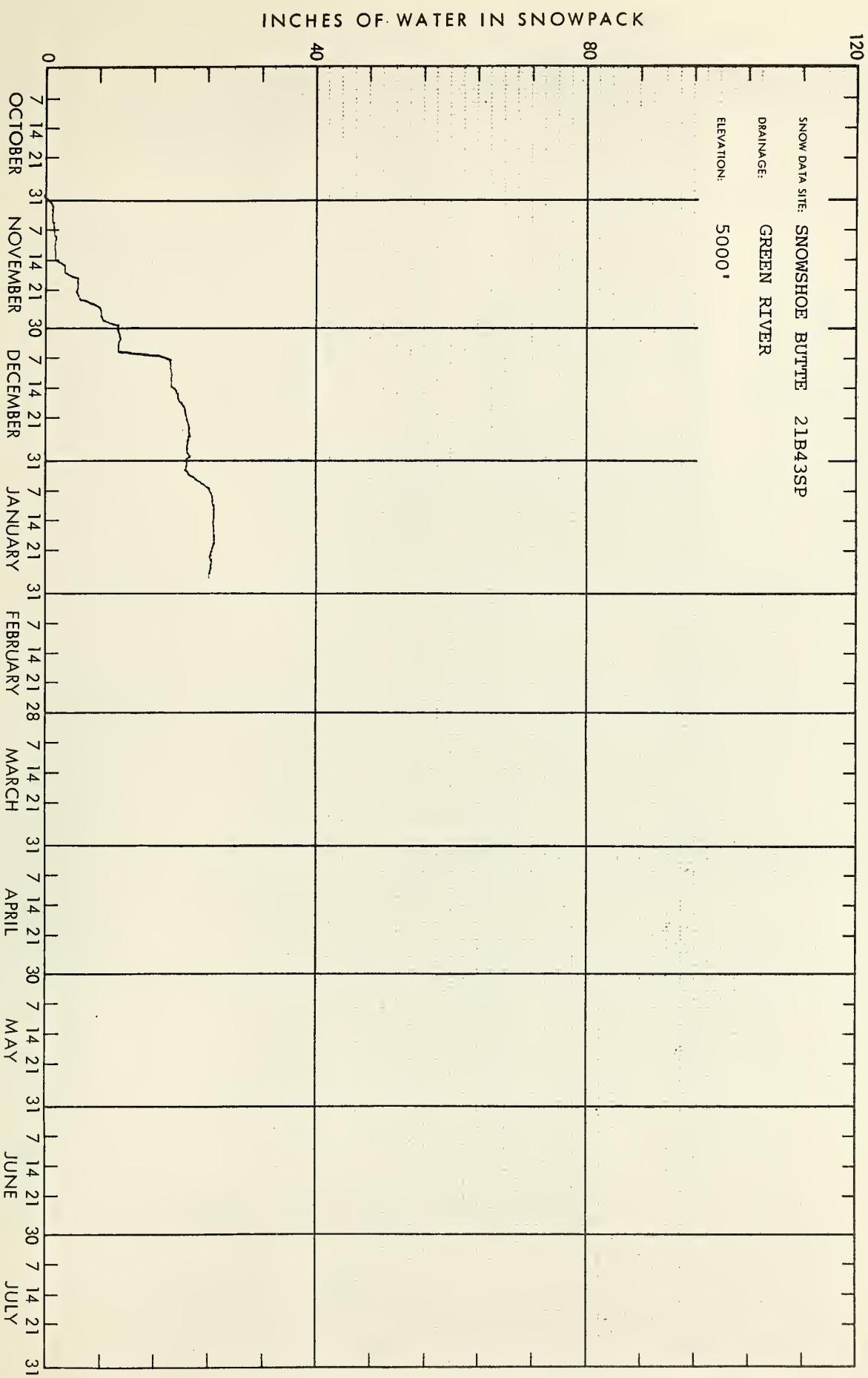
WASHINGTON VALLEY PRECIPITATION

1977 - 1978

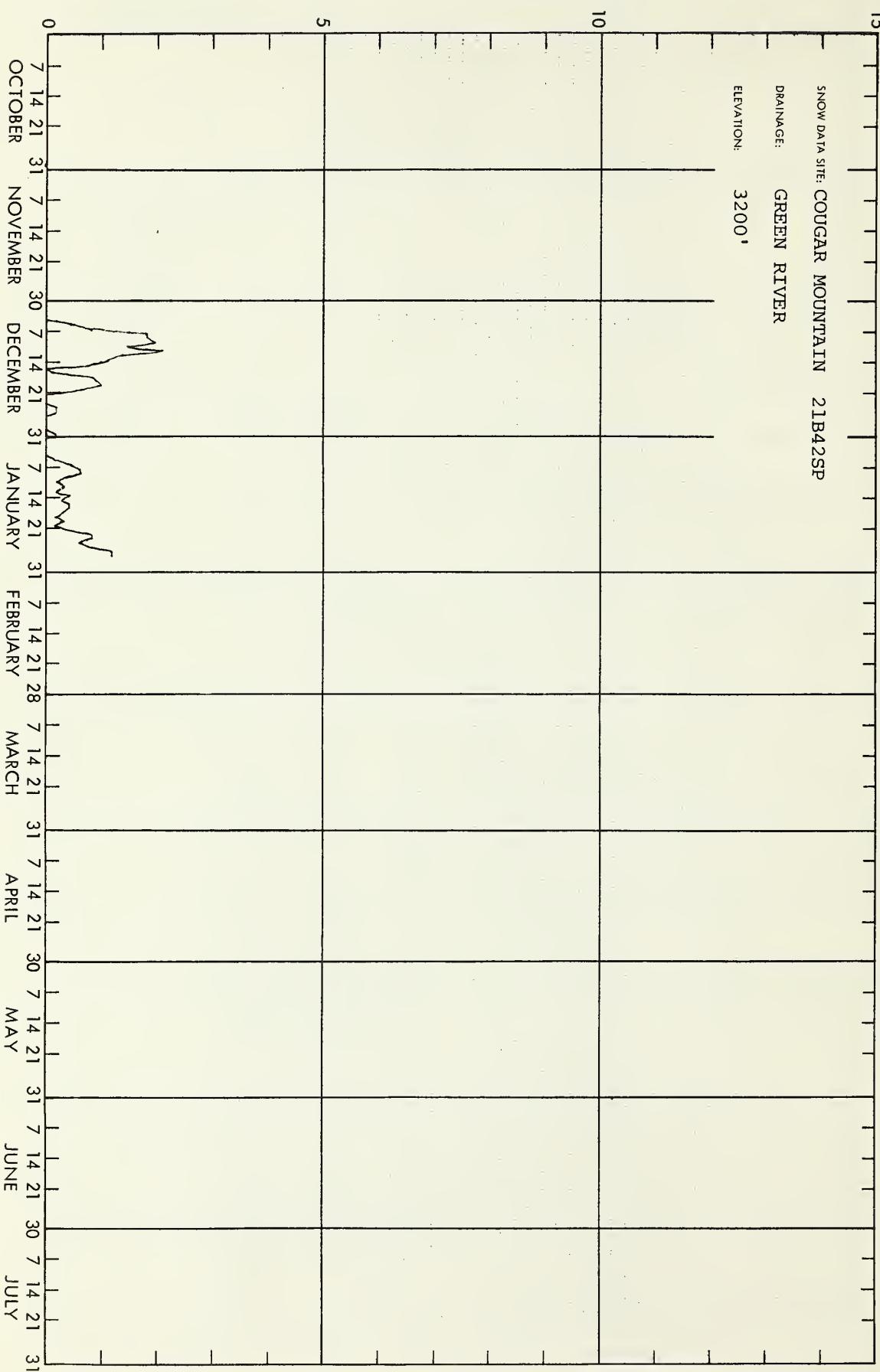
DRAINAGE AREAS



Preliminary Analyses by National Weather Service



INCHES OF WATER IN SNOWPACK



SNOW DATA TO FEBRUARY 1, 1978 - APPENDIX 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year	Average [#]

U P P E R C O L U M B I A D R A I N A G E

PEND OREILLE RIVER

Benton Meadow	16A02	2344	1/3	23	5.4	1.5	3.5
			1/30	24	6.3	1.7	6.0
Benton Spring	16A03	4900	1/3	40	12.1	2.4	8.4
			1/30	50	15.8	3.2	13.8
Chewelah	17A04	4925	1/28	45	13.2	2.0	13.0
Lookout	15B02	5250	12/28	62	22.0	4.8	15.6
			1/30	84	27.5	7.0	26.7
Nelson	19-Can	3050	12/30	35	8.6	2.6	7.5*
			1/31	46	11.7	3.1	11.2*
Schweitzer Bowl	16A06	4500	12/29	57	18.7	5.0	-
			2/1	78	25.5	7.0	22.6
Schweitzer Ridge	16A05	6100	12/29	78	26.2	5.8	-
			2/1	107	39.4	9.8	32.1
Winchester Creek	17A03	2970	1/27	32	8.0	1.7	9.7

KETTLE RIVER

Barnes Creek	90-Can	5300	1/30	48	14.7	10.0	14.0*
Big White Mtn.	154-Can	5500	2/1	50	13.1	7.2	14.1*
Boulder Road	18A02	1450	12/27	9.2	2.4	0.9	2.7
			1/25	17	4.8	1.5	4.6
Butte Creek	18A03	4070	12/27	22	5.4	1.5	4.7
			1/25	33	8.6	2.4	7.4
Cabin Creek	18A08	3170	12/27	16	4.2	1.3	4.4
			1/25	27	6.8	1.7	6.5
Carmi	126-Can	4100	2/1	28	6.6	2.2	5.3*
Farron # 1	17-Can	4000	1/30	41	10.8	2.5	9.6*
Farron # 2	243-Can	4000	1/30	44	12.3	2.5	8.2*
Goat Creek	18A04	3595	12/27	17	4.4	1.3	4.1
			1/25	27	7.3	2.0	6.2
Monashee Pass	48A-Can	4500	1/9	38	10.1	4.2	6.8*
			1/30	38	11.4	6.8	9.6*
Snow Caps Creek	18A05	2150	12/27	9	2.4	1.0	3.0
			1/25	20	5.3	1.5	4.8
Snow Caps Trail	18A06	2720	12/27	12	3.1	1.1	3.5
			1/25	24	5.9	1.5	5.5
Summit G.S.	18A07	4600	12/27	19	4.5	1.1	3.8
			1/25	28	5.7	1.6	5.9
Trapping Creek Lower	166-Can	3050	2/1	25	5.0	2.2	4.4*
Trapping Creek Upper	165-Can	4450	2/1	34	6.2	4.4	7.4*

Average based on 1958-72 average

* Average for years of record

SNOW DATA TO FEBRUARY 1, 1978 - APPENDIX 2

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Average [#]

COLVILLE RIVER

Baird	17A06	3215	1/29	29	8.6	2.4	6.1
Carlson	18A09	2885	1/28	18	4.1	0.6	4.5
Chewelah	17A04	4925	1/28	45	13.2	2.0	13.0
Stranger Mountain	17A05	5990	1/28	37	10.3	0.8	11.0
Togo	18A10	3370	1/28	31	8.4	0.5	10.1

SPOKANE RIVER

Above Burke	15B08	4100	12/28	40	10.5	5.3	-
			1/30	54	16.1	7.0	-
4th of July Summit	16B03	3100	12/28	14	2.9	0.0	4.1
			1/31	29	7.1	2.3	6.8
Lookout	15B02	5250	12/28	62	22.0	4.8	15.6
			1/30	84	27.5	7.0	26.4
Sherwin	16C01	3200	12/30	28	5.8	1.9	-
			1/27	28	7.6	3.6	11.0
Mosquito Ridge	16A04	5110	2/6	93	30.6	-	-

OKANOGAN RIVER

Aberdeen Lake	6A-Can	4300	1/31	29	7.6	2.7	5.0*
Blackwall Peak	100-Can	6250	1/7	73	23.5	4.6	13.7*
			2/1	Late Report		7.3	24.6*
Brenda Mine	193-Can	4800	12/29	37	10.0	2.4	6.2*
			1/30	43	11.9	3.3	9.7*
Brookmere	27-Can	3200	12/31	23	5.1	1.3	1.3*
			1/30	33	7.9	2.3	7.1*
Carrs Landing Upper	168-Can	3200	12/29	21	3.8	0.5	2.1*
			1/30	24	5.6	1.6	3.8*
Clark +	19A08a	7000	2/1	Not Measured		-	-
Dollar Watch +	20A29a	7000	2/1	Not Measured		6.0	19.4
Enderby	130-Can	6250	12/30	79	24.2	11.5	11.5*
			1/27	90	29.6	14.6	25.3*
Freezeout Meadows New	20A38	5000	1/27	62	20.9	7.4	New
Hamilton Hill	107-Can	4900	1/30	46	15.4	4.1	10.3*
Harts Pass	20A05A	6500	1/28	96	37.1	9.7	32.7
Horseshoe Basin +	19A05a	7000				-	9.7
Isontok Lake	152-Can	6300	12/30	27	6.9	1.4	4.0*
			1/28	32	8.5	1.7	6.2*
Lost Horse Mtn.	105-Can	6300	2/1	Late Report		3.3	6.9*
Loup Loup	19A07	4650	1/30	31	8.5	0.4	7.6
McCulloch	4-Can	4200	12/30	24	5.0	1.1	3.2*
			1/28	28	6.5	2.5	4.9*
Missezula Mtn.	106-Can	5100	1/29	37	10.2	2.4	6.8*
Mission Creek	5A-Can	6000	12/28	39	11.9	5.3	9.2*
			1/31	48	15.3	7.7	13.8*

+ Snow water equivalent estimated from aerial stadia observation

Average based on 1958-72 average

* Average for years of record

SNOW DATA TO FEBRUARY 1, 1978 - APPENDIX 3

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year	Average [#]

OKANOGAN RIVER (Cont.)

Monashee Pass	48A-Can	4500	1/9	38	10.1	4.2	6.8*
			1/30	38	11.4	6.8	9.6*
Mount Kobau	156-Can	5950	12/29	24	5.9	1.1	1.1*
			1/30	30	7.7	1.7	9.9*
Muckamuck +	19A09a	6390	2/4	52	15.1	0.0	-
Mutton Creek No. 1	19A01	5700	1/26	41	11.1	0.0	10.4
Mutton Creek No. 2	19A04	6000	1/26	34	10.5	0.5	10.9
Mutton Creek No. 2 SP	19A11SP	6000	1/26	-	10.1	-	New
New Copper Mtn.	46A-Can	4300	1/28	23	4.7	1.1	5.4*
New Penticton Res.#2	183-Can	5225	1/31	30	6.4	3.2	7.3*
Oyama Lake	203-Can	4400	1/30	28	7.4	2.6	5.5*
Paysayten +	20A28a	4300	2/3	32	12.5	3.6	13.0
Postill Lake	55-Can	4500	1/31	28	6.9	3.6	5.9*
Rusty Creek	19A03	4000	1/27	28	6.6	0.2	5.9
Salmon Meadows	19A02	4500	1/27	32	7.3	0.4	7.8
Silver Star Mountain	99-Can	6050	12/31	63	20.4	6.4	14.3*
			1/29	71	24.8	9.0	19.3*
Starvation Mountain +	19A10a	6750	2/1	Not Measured	0.0	-	-
Summerland Reservoir	3A-Can	4200	12/31	28	7.0	1.9	4.9*
			1/29	37	9.4	2.5	7.6*
Touts Coulee	19A06	2845	1/30	16	3.1	0.5	3.4
Trout Creek	3-Can	4700	1/28	28	7.4	2.4	5.2*
Vaseux Creek	233-Can	4600	12/31	18	3.0	1.4	2.5*
			1/30	24	5.0	2.2	5.1*
White Rocks Mtn.	70-Can	6000	1/5	54	17.6	-	-
			1/31	62	21.8	5.3	18.7*

METHOW RIVER

Billy Goat Pass +	21A10a	6409	2/1	Not Measured	6.0	20.8
Dollar Watch +	20A29a	7000	2/1	Not Measured	6.0	19.4
Harts Pass	20A05A	6500	1/28	96	37.1	9.7
Horseshoe Basin +	19A05A	7000	2/1	Not Measured	-	9.7
Loup Loup	19A07	4650	1/30	31	8.5	0.4
Mutton Creek No. 1	19A01	5700	1/26	41	11.1	0.0
Mutton Creek No. 2	19A04	6000	1/26	34	10.5	0.5
Rusty Creek	19A03	4000	1/27	28	6.6	0.2
Salmon Meadows	19A02	4500	1/27	32	7.3	0.4
War Creek Pass +	20A31a	6500	2/1	Not Measured	-	-

+ Snow water equivalent estimated from aerial stadia observation

Average based on 1958-72 average

* Average for years of record

SNOW DATA TO FEBRUARY 1, 1978 - APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (inches)	Water Content (inches)	Last Year	Average #

CHELAN LAKE BASIN

Cloudy Pass +	20A22a	6500	2/3	92	35.9	5.6	29.0
Little Meadows +	20A24a	5275	2/3	115	42.6	6.3	32.2
Lyman Lake +	20A23A	5900	2/3	144	53.3	14.8	42.1
Park Creek Flat +	20A13a	2220	2/1	Not Measured	-	27.3	
Park Creek Ridge	20A12A	4600	2/3	128	44.8	7.0	34.1
Petersons +	20A16a	3730	2/1	Not Measured	-	25.1	
Rainy Pass	20A09	4780	1/28	101	37.6	7.7	29.5
Safety Harbor +	20A30a	6300	2/1	Not Measured	1.8	-	
War Creek Pass +	20A31a	6500	2/1	Not Measured	-	-	

ENTIAT RIVER

Blue Creek G.S. +	20B28a	5425	1/26	126	34.0	-	-
Brief	20B19	1600	1/28	26	9.1	1.0	6.8
Entiat Meadows +	20A33a	4540	1/26	118	31.9	-	-
Entiat River Trail +	20A34a	3325	1/26	86	27.5	-	-
Four Mile Ridge +	20B27a	6800	1/26	100	27.0	-	-
Fox Camp +	20A36a	6510	1/26	152	41.0	-	-
Pope Ridge	20B20	3450	1/31	64	20.2	1.0	14.0
Pugh Ridge +	20A32a	6725	1/26	97	26.2	-	-
Shady Pass	20A37	6200	1/30	111	30.0	2.7	-
Snow Brushy +	20A35a	3910	1/26	113	36.2	-	-
Tommy Creek +	20B21a	4900	1/26	76	20.5	-	-

WENATCHEE RIVER

Berne-Mill Creek	21B23	3170	12/1	29	8.9	-	4.1
			12/14	48	16.8	-	7.6
			12/28	48	17.2	1.8	11.2
			1/11	74	24.4	2.2	16.8
			1/31	69	27.2	2.2	21.4
Berne-Mill Creek New	21B41SP	3240	12/1	26	8.6	-	-
			12/28	34	12.4	1.6	9.9
			1/31	58	20.8	0.0	18.7
Blewett Pass No. 2	20B02	4270	12/28	26	8.5	0.0	6.7
			1/27	45	14.3	0.0	13.0
Chiwaukum G.S.	20B16	1810	12/2	12	3.4	-	1.5
			12/14	24	6.4	-	3.2
			12/28	23	7.1	1.0	5.1
			1/11	32	8.9	1.1	7.8
			1/30	31	9.6	2.0	9.9
Lake Wenatchee	20B05	1970	12/1	24	7.2	-	1.5
			12/15	35	11.9	-	3.9
			12/28	32	12.4	1.9	6.1
			1/11	49	15.5	2.4	9.6
			1/30	44	15.4	2.4	12.1

+ Snow water equivalent estimated from aerial stadia observation

Average based on 1958-72 average

SNOW DATA TO FEBRUARY 1, 1978 - APPENDIX 5

SNOW				THIS YEAR			PAST RECORD	
	DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
	NAME	Number	Elevation				Last Year	Average ⁺

WENATCHEE RIVER (Cont.)

Leavenworth R.S.	20B17	1127	10/26	0	0.0	-	0.0
			11/10	0	0.0	-	0.0
			11/25	1.9	0.5	-	0.8
			12/12	8.6	2.0	-	1.8
			12/27	6.0	2.2	0.5	3.4
			1/13	14	4.9	1.1	4.7
			1/27	13	5.8	0.8	6.0
Lyman Lake +	20A23A	5900	2/3	144	53.3	14.8	42.1
Merritt	20B18	2140	12/2	17	5.8	-	2.3
			12/14	39	12.0	-	4.9
			12/28	37	12.8	1.8	7.9
			1/11	54	16.6	2.0	11.7
			1/30	45	17.0	2.2	14.5
Stevens Pass	21B01	4070	11/17	52	10.5	-	3.6
			12/2	44	15.9	1.0	8.9
			12/13	78	29.0	2.3	14.7
			12/28	75	29.2	5.7	21.7
			1/11	103	37.7	6.9	29.0
			1/30	102	39.5	6.3	37.0
Stevens Pass Sand Shed	21B45	3700	12/2	31	11.0	-	-
			12/14	59	19.5	-	-
			12/28	58	21.9	2.9	-
			1/11	80	28.8	3.3	-
			1/30	76	28.9	2.3	-

COLOCKUM CREEK

Colockum Creek Upper	20B22	5300	1/30	41	12.1	0.0	-
Colockum Creek Lower	20B23	4300	1/30	36	9.8	0.0	-
Trough # 2	20B25SP	5310	1/30	46	13.5	0.0	-

SQUILCHUCK CREEK

Beehive Springs	20B03	4400	1/27	34	9.6	0.0	6.6
Scout-A-Vista	20B04	3400	1/27	34	9.7	0.0	6.5

STEMILT CREEK

Jump-Off	20B08	4450	1/30	37	10.2	0.0	6.7
Stemilt Slide	20B06	5000	1/27	50	14.3	0.0	12.4
Upper Wheeler	20B07	4400	1/27	35	10.6	0.0	8.3

+ Snow water equivalent estimated from aerial stadia observation

Average based on 1958-72 average

SNOW DATA TO FEBRUARY 1, 1978 - APPENDIX 6

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year
							Average #

YAKIMA RIVER

Ahtanum R.S.	21C11	3100	12/28	7.4	1.9	0.0	3.1
			1/25	31	8.6	0.0	6.3
Blewett Pass No. 2	20B02	4270	12/28	26	8.5	0.0	6.7
			1/27	45	14.3	0.0	13.0
Bumping Lake Old	21C08	3450	1/7	36	7.2	0.0	7.1
			1/14	39	8.1	-	10.4
			1/26	37	10.1	0.0	13.2
Bumping Lake New	21C36	3400	12/14	15	5.1	-	5.8
			1/7	43	9.8	0.0	8.7
			1/14	45	11.9	-	13.0
			1/26	44	12.8	0.0	18.3
Cayuse Pass	21C06	5300	12/31	99	39.1	4.3	33.2
			1/27	130	52.7	7.9	58.7
Colockum Pass	20B09	5370	1/27	53	18.4	0.0	11.2
Cooke Creek	20B10	4123	1/27	Trace	0.0	0.0	7.2
Corral Pass	21B13	6000	1/27	73	26.8	4.2	-
Green Lake	21C10	6000	1/24	80	27.7	2.3	-
Grouse Camp	20B11	5385	1/26	50	16.7	0.0	12.1
High Creek	20B12	2930	1/26	16	5.1	0.0	4.9
Joe Lake +	21B46a	4624	1/23	123	49.2	13.4	-
Lake Cle Elum	21B14M	2200	12/9	18	4.0	0.0	1.1
			12/16	13	3.9	-	2.2
			1/4	24	5.4	0.4	4.2
			1/12	21	5.6	0.8	6.5
			1/27	19	6.2	0.0	8.2
Lemah Creek +	21B47a	3327	1/23	87	34.8	6.1	-
Manashtash	20C01	3935	1/30	25	6.9	0.0	3.9
Morse Lake	21C17	5400	1/30	108	39.9	3.0	39.4
Nanum	20B13	3875	1/26	23	6.8	0.0	7.8
Olallie Meadows	21B02	3625	1/27	60	23.2	0.8	32.7
Satus Pass	20D01	4030	1/30	25	6.9	0.0	8.7
Stampede Pass SP	21B10	3860	12/2	30	13.0	-	6.3
			12/15	59	22.5	-	11.9
			1/3	65	27.6	3.6	16.5
			1/16	75	33.5	4.2	22.0
			1/30	80	34.0	2.0	28.7
Trail Creek	20B14	3360	1/27	13	4.1	0.0	2.3
Tunnel Avenue	21B08	2450	11/21	12	3.0	-	0.0
			12/5	17	3.4	0.0	2.7
			12/14	24	7.4	-	6.4
			1/3	35	9.5	1.0	9.2
			1/13	42	11.7	2.6	11.3
			1/26	40	12.3	1.2	17.6
Van Epps Pass +	20B26a	5925	1/23	110	44.0	10.3	-

+ Snow water equivalent estimated from aerial stadia observation

Average based on 1958-72 average

SNOW DATA TO FEBRUARY 1, 1978 - APPENDIX 7

SNOW	DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
	NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
							Last Year	Average [#]

YAKIMA RIVER (Cont.)

Walters Flat	20B15	3360	1/26	20	6.0	0.0	6.3
Waptus Lake +	21B49a	3024	1/23	81	32.4	6.9	-
White Pass (E.Side)	21C28	4500	1/3	34	10.1	-	9.6
			1/16	48	12.0	-	14.0
			1/30	49	14.2	0.0	18.2

AHTANUM CREEK

Ahtanum R.S.	21C11	3100	12/28	7.4	1.9	0.0	3.1
			1/25	31	8.6	0.0	6.3
Green Lake	21C10	6000	1/24	80	27.7	2.3	-

LOWER COLUMBIA DRAINAGEASOTIN CREEK

Spruce Springs	17C04	5700	1/27	46	12.7	2.4	19.3
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MILL CREEK

Homestead	17C01	4030	1/25	11	3.8	0.6	6.5
Martin Springs	17C02	4400	1/25	16	4.6	1.6	9.8
Tollgate	18D03M	5070	2/2	44	13.7	4.0	16.7

KLICKITAT RIVER

Status Pass	20D01	4030	1/30	25	6.9	0.0	8.7
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WHITE SALMON RIVER

Cultus Creek	21C12	4000	12/27	43	15.1	2.7	17.8
			1/27	69	25.0	3.4	32.5
Surprise Lakes	21C13A	4250	12/27	39	14.2	3.0	20.1
			1/27	72	25.2	4.2	35.9

WIND RIVER

Old Man Pass	21D19	3100	12/27	6	0.6	0.0	7.5
			1/27	13	3.9	0.0	14.7

Average based on 1958-72 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1978 - APPENDIX 8

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year	Average [†]

LEWIS RIVER

Blue Lake +	21C22a	4800	12/27	94	32.0	8.0	34.5
			1/27	136	49.0	7.7	60.5
Bob's Trail	21C21	2200	12/28	5	1.6	0.0	6.5
			1/26	5.2	1.3	0.0	12.0
Calamity Ridge +	22D01a	2500	12/27	2	0.2	0.0	3.9
			1/26	2	0.6	0.0	5.6
Council Pass +	21C18	4200	12/27	36	12.6	4.3	18.6
			1/27	58	20.3	2.8	29.7
Cultus Creek	21C12	4000	12/27	43	15.1	2.7	17.8
			1/27	69	25.0	3.4	32.5
Divide Meadow +	21C29a	5600	12/27	68	23.1	4.8	27.5
			1/27	86	30.1	5.0	42.3
Grand Meadow	21C25	3500	12/27	10	2.2	0.0	10.5
			1/27	26	8.6	0.0	19.4
Lone Pine Shelter	21C26	3800	12/27	28	8.7	1.3	17.0
			1/27	44	14.6	1.3	30.5
Marble Mountain +	22C05a	3200	12/27	10	2.7	0.0	12.7
			1/26	14	5.3	0.0	28.7
New Muddy River	22C06	2000	12/28	0	0.0	0.0	6.4
			1/26	0	0.0	0.0	12.1
Old Man Pass	21D19	3100	12/27	6	0.6	0.0	7.5
			1/27	13	3.9	0.0	14.7
Plains of Abraham +	22C01a	4400	12/27	62	21.7	2.7	28.8
			1/26	110	39.6	2.9	45.2
Smith Creek Road	22C04	2100	12/27	0	0.0	0.0	9.5
			1/26	9.6	3.8	0.0	15.7
Spencer Meadow +	21C20a	3400	12/27	9	2.2	0.3	10.2
			1/26	10	3.4	0.0	17.9
Surprise Lakes	21C13A	4250	12/27	39	14.2	3.0	20.1
			1/27	72	25.2	4.2	35.9
Table Mountain +	21C24a	4200	12/28	56	19.0	4.3	21.4
			1/27	82	28.7	2.1	34.8
Timbered Peak +	21D18a	3000	12/27	4	0.4	0.0	8.0
			1/26	6	1.8	0.0	14.3

COWLITZ RIVER

Cayuse Pass	21C06	5300	12/31	99	39.1	4.3	41.3
			1/27	130	52.7	7.9	58.7
Plains of Abraham +	22C01a	4400	12/27	62	21.7	2.7	28.8
			1/26	110	39.6	2.9	45.2
White Pass (E. Side)	21C28	4500	1/3	35	10.1	-	9.6
			1/16	48	12.0	-	14.0
			1/30	49	14.2	0.0	18.2

Average based on 1958-72 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1978 - APPENDIX 9

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average ¹⁹⁵⁸⁻⁷²

P U G E T S O U N D D R A I N A G E

WHITE RIVER

Cayuse Pass	21C06	5300	12/31	99	39.1	4.3	41.3
			1/27	130	52.7	7.9	58.7
Corral Pass	21B13	6000	1/27	73	26.8	4.2	-
Morse Lake	21C17	5400	1/30	108	39.9	3.0	39.4

GREEN RIVER

Airstrip	21B24	1800	11/30	0	0.0	-	0.6
			12/31	3.4	0.4	0.0	2.5
			1/27	0	0.0	0.0	4.9
Charley Creek	21B25	1200	11/30	0	0.0	-	0.0
			12/31	Trace	0.0	0.0	1.6
			1/27	0	0.0	0.0	1.5
Cougar Mountain	21B42SP	3200	1/27	6.2	2.0	0.0	-
Grass Mtn. No. 2	21B27	2900	11/30	0	0.0	-	2.9
			12/31	8	0.9	0.0	7.6
			1/27	9.7	3.3	0.0	15.3
Grass Mtn. No. 3	21B28	2100	11/30	0	0.0	-	0.7
			12/31	4.8	1.1	0.0	2.6
			1/27	0	0.0	0.0	5.3
Lester Creek	21B29	3100	11/30	7.6	2.0	-	-
			12/31	18	2.5	1.1	9.7
			1/27	24	6.8	2.0	17.8
Lynn Lake	21B50	4000	11/30	0	0.0	-	-
			12/31	4.2	1.2	0.9	-
			1/27	7.8	2.3	0.0	-
Sawmill Ridge	21B31	4700	11/30	26	9.0	-	7.0
			12/31	45	17.3	2.2	15.2
			1/27	59	21.2	3.7	28.6
Snowshoe Butte	21B43SP	5000	1/27	89	32.4	3.5	-
Stampede Pass SP	21B10	3860	12/2	30	13.0	-	6.3
			12/15	59	22.5	-	11.9
			1/3	65	27.6	3.6	16.5
			1/16	75	33.5	4.2	22.0
			1/30	80	34.0	2.0	28.7
Twin Camp	21B30	4100	11/30	12	4.8	-	4.1
			12/31	23	7.5	1.8	11.3
			1/27	34	10.9	1.7	17.6

Average based on 1958-72 average

SNOW DATA TO FEBRUARY 1, 1978 - APPENDIX 10

SNOW	THIS YEAR				PAST RECORD	
	DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)
	NAME	Number				Last Year
						Average [#]

SNOQUALMIE RIVER

Olallie Meadows	21B02	3625	1/27	60	23.2	0.8	32.7
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SKYKOMISH RIVER

Stevens Pass	21B01	4070	11/17	52	10.5	-	3.6
			12/2	44	15.9	-	8.9
			12/13	78	29.0	2.3	14.7
			12/28	75	29.2	5.7	21.7
			1/11	103	37.7	6.9	29.0
			1/30	102	39.5	6.3	37.0
Stevens Pass Sand Shed	21B45	4070	12/2	31	11.0	-	-
			12/14	59	19.5	-	-
			12/28	58	21.9	2.9	-
			1/11	80	28.8	3.3	-
			1/30	76	28.9	2.3	-

SKAGIT RIVER

Beaver Creek Trail	21A04	2200	1/27	37	12.8	0.5	-
Beaver Pass	21A01	3680	1/27	57	19.0	1.4	-
Brown Top Ridge +	21A28a	6000	1/27	113	43.6	13.6	-
Cloudy Pass +	20A22a	6500	2/3	92	35.9	5.6	29.0
Devils Park	20A04	5900	1/28	95	35.6	8.7	31.9
Freezeout Creek Trail	20A01	3500	1/27	34	9.6	0.9	-
Freezeout Meadows New	20A38	5000	1/27	62	20.9	7.4	-
Granite Creek	21A29A	3500	1/28	47	13.5	3.1	-
Harts Pass	20A05A	6500	1/28	96	37.1	9.7	32.7
Klesilkwa	35B-Can	3700	2/1	Late Report	0.4	9.9*	
Lyman Lake	20A23A	5900	2/3	144	53.3	14.8	42.1
Meadow Cabins	20A08	1900	1/27	21	7.2	0.0	-
New Hozomeen Lake	21A30	2800	1/27	26	8.2	0.8	-
New Tashme	26A-Can	2500	2/1	Late Report	2.0	8.5*	
Rainy Pass	20A09	4780	1/28	101	37.6	7.7	29.5
Thunder Basin	20A07	4200	1/27	50	16.0	3.0	-

BAKER RIVER

Baker Pass +	21A27a	4900	11/3	24	6.0	-	-
			12/16	Marker Missing	-	-	-
Dock Butte +	21A11A	3800	11/3	15	4.0	1.0	-
			12/16	68	20.0	-	-
			12/27	72	22.0	4.0	-
			2/1	Not Measured	4.0	44.8	
Easy Pass +	21A07A	5200	11/3	36	9.0	2.0	-
			12/16	120	36.0	-	-
			12/27	120	36.0	10.0	-
			1/27	132	53.0	11.0	53.9

Average based on 1958-72 average

* Average for years of record

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1978 - APPENDIX 11

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year	Average #

BAKER RIVER (Cont.)

Jasper Pass +	21A06A	5400	11/3	32	8.0	2.0	-
			12/16	132	40.0	-	-
			12/27	126	38.0	19.0	-
			1/27	156	72.0	14.0	65.7
Marten Lake	21A09A	3600	11/3	16	4.0	1.0	-
			12/16	96	27.0	-	-
			12/27	92	28.0	11.0	-
			2/1	Not Measured	14.0	52.2	
Mt. Blum +	21A18a	5800	11/3	10	3.0	2.0	-
			12/16	78	30.0	-	-
			12/27	78	23.0	11.0	-
			1/27	106	42.0	11.0	42.5
Panorama New	21A26	4300	1/13	94	38.9	9.6	-
			1/28	104	48.0	7.5	-
Rocky Creek	21A12A	2100	11/3	12	3.0	0.0	-
			12/16	32	9.0	-	-
			12/27	27	8.0	0.0	-
			2/1	Not Measured	0.0	21.5	
Schreibers Meadow	21A10A	3400	11/3	10	3.0	0.0	-
			12/16	56	17.0	-	-
			12/27	58	17.0	4.0	-
			2/1	Not Measured	2.0	39.9	
S. F. Thunder Creek + 21A14A	21A14A	2200	11/3	0	0.0	0.0	-
			12/16	16	5.0	-	-
			12/27	16	5.0	0.0	-
			1/27	0	0.0	0.0	7.4
Watson Lakes	21A08A	4500	11/3	24	6.0	1.0	-
			12/16	70	21.0	-	-
			12/27	73	22.0	10.0	-
			1/27	88	37.0	9.0	42.9

NOOKSACK RIVER

Glacier Creek	21A23	3700	11/27	15	6.9	0.0	-
			12/30	23	7.4	0.9	-
			2/1	Not Measured	0.0	-	-
Panorama New	21A26	4300	1/13	94	38.9	9.6	-
			1/28	104	48.0	7.5	-

Average based on 1958-72 average

+ Snow water equivalent estimated from aerial stadia observation

SNOW DATA TO FEBRUARY 1, 1978 - APPENDIX 12

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average #

O L Y M P I C P E N I N S U L ADUNGENESS RIVER

Deer Park	23B04	5200	1/30	34	10.1	0.0	-
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MORSE CREEK

Cox Valley	23B14	4500	1/28	60	22.6	0.0	-
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ELWHA RIVER

Hurricane	23B03	4500	1/27	30	9.1	0.0	16.7
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Average based on 1958-72 average

PRECIPITATION STORAGE GAGES

Amount of precipitation in inches that has accumulated since the previous measurement.

<u>BAW FAW PEAK</u>		<u>CEDAR FALLS 4SE</u>		<u>CEDAR FALLS 7SSE</u>	
Not reported		8/2/76	Recharge	8/2/76	Recharge
		9/7/76	8.31	9/7/76	5.11
<u>BIG BOULDER CREEK</u>		10/6/76	1.49	10/6/76	2.13
		11/8/76	5.96	11/8/76	4.90
8/11/76	Recharge	12/3/76	5.97	12/3/76	5.75
6/6/77	43.12	1/24/77	17.46	1/24/77	16.62
10/12/77	7.88	5/9/77	27.27	5/4/77	27.48
11/8/77	6.25	6/1/77	5.32	6/1/77	5.97
		7/6/77	3.41	7/5/77	2.98
<u>BUMPING RIDGE</u>		7/26/77	1.28	8/2/77	1.49
		9/6/77	7.02	9/6/77	6.60
7/20/76	Recharge	10/4/77	5.97	10/4/77	5.54
6/9/77	43.12				
<u>CANTON CREEK</u>		<u>CEDAR FALLS 5SE</u>		<u>CEDAR FALLS 8SE</u>	
		7/28/76	Recharge	7/28/76	Recharge
9/30/76	Recharge	9/2/76	2.77	9/2/76	3.83
11/10/76	6.70	10/5/76	3.19	10/6/76	3.62
12/10/76	7.00	11/9/76	4.69	11/5/76	3.84
1/17/77	6.70	12/3/76	3.40	12/31/76	3.41
3/10/77	10.40	2/4/77	11.07	1/24/77	11.71
4/8/77	7.20	5/5/77	14.70	5/6/77	18.75
4/13/77	0.70	5/31/77	4.68	6/1/77	4.26
4/28/77	1.60	7/6/77	1.50	7/5/77	1.27
5/12/77	2.70	7/29/77	0.86	7/29/77	0.86
6/1/77	3.20	9/2/77	4.47	9/6/77	5.96
6/21/77	1.10	10/3/77	5.75	10/3/77	4.69
7/18/77	0.90				
8/25/77	0.20	<u>CEDAR FALLS 7SE</u>		<u>CEDAR FALLS 10SE</u>	
8/31/77	5.60	8/2/76	Recharge	8/2/76	Recharge
9/19/77	2.25	9/2/76	5.96	9/2/76	5.32
9/26/77	3.20	10/4/76	1.07	10/4/76	3.40
<u>CARNATION 15E</u>		11/5/76	5.32	11/5/76	7.24
		12/1/76	4.48	12/3/76	7.25
7/26/76	Recharge	1/24/77	13.84	1/24/77	16.61
9/7/76	7.45	5/9/77	23.86	5/9/77	30.25
10/11/76	1.70	6/1/77	5.54	6/1/77	6.17
11/13/76	5.33	7/5/77	1.27	7/5/77	2.13
12/1/76	6.18	8/1/77	1.50	8/1/77	1.92
2/5/77	20.45	9/6/77	4.47	9/6/77	7.03
5/10/77	29.18	10/3/77	5.54	10/3/77	6.39
6/8/77	7.02				
7/2/77	1.50				
8/5/77	2.34				
9/7/77	7.67				
10/8/77	7.24				

NOTE: Previously published by NOAA in "Storage-Gage Precipitation Data for Western United States"

PRECIPITATION STORAGE GAGES (Continued)

<u>CONCRETE 12NE</u>		<u>EASY PASS</u>		<u>GREEN RIVER II (Continued)</u>	
10/9/76	Recharge	10/8/76	Recharge	4/8/77	7.60
3/28/77	53.67	2/24/77	23.74	4/15/77	0.40
4/26/77	5.53	3/29/77	7.91	5/18/77	2.70
9/1/77	20.38	4/26/77	4.17	6/1/77	2.00
		6/9/77	8.46	6/21/77	0.90
<u>CONCRETE 12NNW</u>		9/1/77	11.65	7/6/77	0.00
				7/26/77	0.60
10/8/76	Recharge	<u>FROZEN MOUNTAIN</u>		9/1/77	3.90
2/24/77	51.61	7/29/76	Recharge	9/12/77	0.90
3/28/77	19.96	9/7/76	8.77	9/26/77	2.50
4/26/77	8.43	10/11/76	2.70	<u>JASPER PASS</u>	
6/9/77	8.90	11/13/76	4.28		
9/2/77	7.40	12/1/76	8.78	10/9/76	Recharge
<u>CONSULTANT CREEK</u>		2/5/77	21.82	2/24/77	30.35
		5/10/77	34.20	3/29/77	14.21
7/26/76	Recharge	6/2/77	7.66	4/26/77	5.63
9/7/76	9.44	7/2/77	2.02	6/9/77	10.91
10/11/76	2.93	8/8/77	4.72	9/1/77	7.99
11/13/76	5.17	9/10/77	8.78	<u>LESTER 5NNE</u>	
12/1/76	7.43	10/8/77	4.96		
2/5/77	21.38	<u>GLACIER CREEK</u>		7/27/76	Recharge
5/10/77	31.73			9/2/76	5.54
6/2/77	9.22	9/27/76	Recharge	10/4/76	2.34
7/2/77	1.12	5/18/77	63.55	11/5/76	5.96
8/5/77	10.35	10/7/77	18.05	12/1/76	5.54
9/7/77	6.98	<u>GRASS MTN. # 1</u>		1/28/77	15.34
10/8/77	5.85			5/6/77	25.56
<u>COUGAR 16NE</u>				6/1/77	5.96
		9/30/76	Recharge	7/6/77	2.13
9/30/77	Recharge	11/10/76	7.40	7/27/77	1.28
12/28/76	11.32	12/9/76	9.45	9/2/77	4.90
3/29/77	23.40	2/3/77	12.60	10/4/77	6.60
9/27/77	22.56	3/10/77	10.60	<u>LESTER 7NNW</u>	
<u>DRY CREEK</u>		4/28/77	13.50		
		5/9/77	2.50	7/27/76	Recharge
		6/24/77	6.50	9/2/76	4.90
7/30/76	Recharge	9/6/77	9.90	10/5/76	1.71
9/7/76	9.00	9/26/77	4.30	11/5/76	5.11
10/11/76	2.47	<u>GREEN RIVER II</u>		12/3/76	5.32
11/13/76	4.72			5/6/77	37.49
12/1/76	9.22	10/4/76	Recharge	6/1/77	4.26
2/15/77	20.92	11/3/76	2.90	7/6/77	1.70
5/10/77	32.18	11/23/76	2.00	8/2/77	1.07
6/2/77	8.10	12/6/76	0.70	9/2/77	4.26
7/2/77	2.02	1/7/77	6.30	10/4/77	6.39
8/2/77	4.28	2/10/77	1.80		
9/10/77	10.80	3/2/77	2.90		
10/8/77	4.96				

PRECIPITATION STORAGE GAGES (Continued)

<u>LESTER 8N</u>		<u>LONE PINE SHELTER</u>		<u>MT. INDEX (Continued)</u>	
7/27/76	Recharge	9/30/76	Recharge	9/10/77	11.25
9/7/76	6.17	12/27/76	3.19	10/8/77	4.28
10/5/76	-1.49	2/23/77	7.38		
11/5/76	7.88	3/29/77	17.95		
12/3/76	4.90	4/25/77	2.26		
5/5/77	40.05	6/8/77	12.33	8/3/76	Recharge
5/31/77	4.47	9/27/77	9.81	9/13/76	8.31
7/6/77	2.98			10/6/76	1.70
8/1/77	-0.22			11/8/76	4.05
9/2/77	5.75			12/2/76	3.83
10/4/77	6.60	10/9/76	Recharge	1/24/77	11.08
		2/24/77	58.66	5/5/77	15.55
<u>LESTER 8NNW</u>		3/29/77	27.32	6/1/77	7.45
		4/26/77	6.85	7/3/77	2.77
7/27/76	Recharge	6/9/77	15.83	7/26/77	1.06
9/2/76	4.47	9/1/77	13.46	9/7/77	7.25
10/5/76	0.21			10/3/77	5.32
11/5/76	4.48				
12/3/76	5.33				
5/5/77	35.78	10/14/76	Recharge		
6/1/77	3.84	5/17/77	56.90	9/29/76	Recharge
7/6/77	1.92	10/6/77	16.80	12/27/76	9.31
8/2/77	1.07			2/23/77	5.12
9/2/77	4.05			6/8/77	21.47
10/4/77	6.18			9/28/77	8.30
<u>LESTER 10NNW</u>		8/3/76	Recharge		
		9/7/76	9.16		
		10/5/76	1.49		
7/28/76	Recharge	11/8/76	5.33	8/29/76	Recharge
9/2/76	4.90	12/2/76	4.26	6/10/77	39.88
10/5/76	2.77	1/24/77	13.63	10/4/77	4.62
11/5/76	5.54	5/5/77	20.02		
12/3/77	4.69	6/1/77	7.88		
1/24/77	14.48	7/3/77	1.92		
5/5/77	25.98	7/26/77	2.56	8/23/76	Recharge
5/31/77	4.69	9/7/77	7.87	9/15/77	27.00
7/5/77	2.34	10/3/77	5.53		
7/27/77	1.28				
9/6/77	6.82				
10/4/77	4.90				
<u>LESTER 11NW</u>		9/16/76	Recharge	10/29/76	Recharge
		11/7/77	118.10	11/29/76	0.00
				12/28/76	0.60
7/28/76	Recharge	MT. INDEX		1/27/77	0.20
9/2/76	4.26	7/29/76	Recharge	2/24/77	0.50
10/5/76	2.98	9/7/76	8.55	3/29/77	4.30
11/5/76	4.68	10/11/76	6.52	4/27/77	0.70
12/3/76	4.05	11/13/76	2.47	5/26/77	4.30
2/4/77	11.93	12/1/76	9.45	6/28/77	3.20
5/6/77	22.58	2/5/77	21.38	7/27/77	0.60
5/31/77	4.68	5/10/77	33.07	8/29/77	1.90
7/6/77	0.68	6/2/77	8.78	9/26/77	4.30
7/29/77	0.22	7/2/77	2.26	10/26/77	0.80
9/6/77	6.60	8/8/77	6.07	11/29/77	8.30
10/3/77	4.04			12/30/77	7.35
				1/27/78	3.65

PRECIPITATION STORAGE GAGES (Continued)

<u>SALMON MEADOWS</u>		<u>SURPRISE LAKES</u>		<u>TRUCK HILL (Continued)</u>	
10/29/76	Recharge	7/29/76	Recharge	12/1/76	9.00
11/29/76	0.35	12/27/76	32.0	2/5/77	20.25
12/28/76	1.00	6/3/77	33.0	5/10/77	30.82
1/27/77	0.30			6/2/77	9.00
2/24/77	0.50	<u>SWAUK PASS</u>		7/2/77	1.57
3/29/77	6.10	Not Reported		Demolished	
4/27/77	0.60				
5/26/77	6.20				
6/28/77	2.70	<u>TAYLOR CREEK</u>		<u>UPPER WHEELER</u>	
7/27/77	1.20			5/28/76	Recharge
8/29/77	2.40	8/3/76	Recharge	6/28/76	0.20
9/26/77	3.40	9/13/76	6.82	7/28/76	0.05
10/26/77	1.10	10/6/76	1.49	1/27/77	0.20
11/29/77	7.25	11/8/76	3.41	2/25/77	0.50
12/30/77	6.55	12/2/76	2.77	3/30/77	2.00
1/27/78	3.70	1/24/77	10.65	4/28/77	0.00
		5/5/77	13.63	5/30/77	1.60
<u>SHERMAN CREEK PASS</u>		6/1/77	5.96	6/29/77	0.39
		7/3/77	1.71	7/31/77	0.02
9/2/76	Recharge	8/2/77	2.13	8/28/77	0.75
9/30/77	16.22	9/7/77	5.96	9/27/77	0.90
		10/3/77	4.26	10/28/77	0.35
<u>SPRUCE SPRINGS</u>				11/25/77	3.20
		<u>TROUGH # 2</u>		12/27/77	7.80
10/6/75	Recharge			1/27/78	5.70
10/1/76	49.95	7/15/76	Recharge		
10/1/77	26.30	9/15/76	2.40	<u>YELLOW CREEK</u>	
		6/6/77	19.10		
<u>SKYKOMISH 7½W</u>		11/8/77	4.50	7/26/76	Recharge
				9/7/76	8.55
7/30/76	Recharge	<u>TROUT LAKE 13NNW</u>		10/11/76	2.02
9/14/76	10.65			11/13/76	2.48
10/10/76	1.70	9/29/76	Recharge	12/1/76	5.40
11/14/76	7.46	12/27/76	1.84	2/5/77	10.80
12/1/76	12.78	2/23/77	5.20	5/10/77	25.65
6/2/77	74.97	3/29/77	12.75	6/2/77	7.20
7/6/77	4.26	9/28/77	19.04	7/2/77	0.68
8/3/77	2.77			8/5/77	3.38
9/10/77	10.86	<u>TROUT LAKE 19WNW</u>		9/7/77	4.73
10/5/77	5.33			10/8/77	3.60
<u>SPIRIT LAKE 3S</u>		9/29/76	Recharge		
		12/28/76	1.26		
		3/29/77	20.38		
8/31/76	Recharge	9/28/77	21.89		
11/30/76	10.35				
12/30/76	4.05	<u>TRUCK HILL</u>			
2/15/77	4.05				
4/04/77	16.42	7/29/76	Recharge		
4/31/77	3.15	9/7/76	9.68		
7/20/77	13.73	10/11/76	2.70		
9/30/77	13.57	11/13/76	4.72		

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Department of Lands, Forests and Water Resources,
Water Resources Service, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
Corps of Engineers
U. S. Department of Agriculture
Forest Service
U. S. Department of Commerce
NOAA, National Weather Service
U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

*Other organizations and individuals furnish valuable information for
snow survey reports. Their cooperation is gratefully acknowledged.*



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